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ABSTRACT

Project Upswing was a two-year tutoring experiment directed by universities in Denver, Oxford (Mississippi), St. Louis, and San Francisco and involving first graders identified by their teachers at the beginning of the school year as capable of normal achievement but having learning difficulties. Half of the students served as a control group and half were tutored twice a week, one hour each session, by adult volunteers. The project was evaluated for impact of tutoring on children's development of reading skills, visual-motor integration skills, and self-esteem and for effectiveness of tutor training. Analysis indicated that tutoring was effective in helping students improve their rates of progress in reading and their self-esteem but that tutoring had no significant effect on visual-motor integration skill. As a byproduct of the evaluation, the data suggested that grade retention had negative effects. The mean reading score at the end of the year for both retained and promoted children was in the average range. But at the end of the second year, the reading score for those children who repeated first grade dropped significantly into the low-average range; the promoted children maintained their previous level. (TO)

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SILVER SPRING, MARYLAND

Project Upswing after Two Years: an Evaluation

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SUMMARY

Project Upswing was a two-year tutoring experiment conducted under the auspices of the Department of Health, Education, and Welfare, U.S. Office of Education, Bureau of Educational Personnel Development. There were Upswing projects directed by universities in four cities: Denver; Oxford, Mississippi; St. Louis; and San Francisco. The children involved were first graders identified by their teachers at the beginning of the school year as capable of normal achievement but having learning difficulties. Half of the children were tutored and half were taken as a control group.

The tutors were volunteers, primarily adult women. College students also served as tutors, especially in the small community of Oxford, Mississippi, where the nonstudent population is small. In the first year of the project, half of the tutors received training, most of it before tutoring began; half had only a brief orientation. In the second year, all tutors received training, much of it during the tutoring period.

The children were tutored twice a week, one hour each session. Tutors worked out their own instructional approaches with suggestions from project staff and teachers or with more extensive help as requested. Programmed materials were made available by the project but were not heavily used.

The project was evaluated for impact of tutoring on children's development of reading skills, visual-motor integration skills, and self-esteem. The evaluation was also concerned with whether training increased tutor effectiveness and with the preferability of different training approaches.

The children's skills in the criterion areas were measured before and after tutoring with a battery of standardized instruments (an experimental self-esteem measure was also administered). Basic experiences also were measured, by the Test of Basic Experiences, as a proxy for family background. The pre- and post-tutoring test results for tutored and control group children were compared using multiple regression and analysis of covariance. The latter was used to control for initial skill level.

A different group of children was involved each year. Those tutored in the first year were tested at the end of second grade to determine effects of tutoring over time.

The analysis indicated that tutoring was effective in helping children improve their rates of progress in reading, and their self-esteem. There was no significant effect on visual-motor integration skill.

A project impact beyond the influence of tutoring was observed. In the first year, tutored children made significantly greater progress in reading (as measured by the Wide Range Achievement Test). In the second year, both tutored and untutored made significant gains in test-observed reading and self-esteem. Enlargement of basic experiences also occurred in both groups. The progress of the control group in the second year appeared to be attributable to the influence of the project on teachers.

The data suggested that it does not matter so much how one goes about involving or training teachers or tutors. It does seem to matter that the sense of project entity be well-defined, that there be clear leadership; that involvement be reinforced periodically; and that the participants know that someone (preferably someone whom they see as authoritative) is paying attention to their efforts and the results of their efforts. This also applies to the children.

Trained tutors were no more effective with their pupils than untrained. However, tutors felt a need for training and teachers considered trained tutors more effective. School principals also generally believed tutors should receive training. The inservice approach was preferred.

Despite the value placed on training, many tutors did not attend regularly. It appeared that training might be valued more in theory than in practice because training traditionally has been accepted as a good thing. It also appeared that training is valued more highly when little or none is available.

The follow-up data were somewhat ambiguous because of the nature of attrition in the follow-up groups. However, the children generally maintained their reading standard scores established at the end of the year of Upswing. Thus it appears that the effects of Upswing tutoring probably are durable.

Finally, there were two major findings that came as a byproduct of the Upswing evaluation effort. It was difficult to determine the reasons for retention of a substantial proportion of children involved in the first year of Upswing; and the data suggested retention had negative effects. The mean reading score from the test given at the end of Upswing was in the average range for retained children as for those who were not retained. The group kept in first grade lost ground during the follow-up year. Their mean reading standard score at the end of the follow-up year dropped significantly into the low-average range; the other children maintained their previous level. The Upswing data also showed that remedial reading generally was not effective in bringing up the reading scores of follow-up children. When the project was present, the children who had remedial reading did show a substantial mean increase in reading score; children who had tutors instead of remedial reading showed almost as great a mean increase. These results pose some questions about the comparative value of remedial reading, considering the high cost.

In the final analysis, Project Upswing is found to be a cost-effective means of serving the large number of children with early learning problems. The project seems to be effective in both urban and rural settings. It could be a means of reaching the vast numbers of children with learning problems throughout the nation who now receive no help.

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I. STATEMENT OF THE RESEARCH PROBLEM

A teacher working alone with a class of typical size (usually 25-30 students) does well to give *10 minutes a week* of individual help in a subject area to each child. Very nearly everyone in education recognizes the value of individualized instruction, particularly for children who have learning problems; but tight school budgets rarely make this help possible.

Individual instructional needs of certain kinds can be satisfied by programmed materials, which provide feedback important for learning. However, there is a strong argument that needs for personal interaction are as important, if not more important than instructional needs. Most all teachers can point out children in their classes whose need for positive reinforcement from an adult is so great that it impedes the children's academic progress.

Use of volunteers in the schools is a way of meeting special needs of individual children in a personal way without taxing school budgets. The question is, what can volunteers reasonably be expected to do? Traditionally, both volunteers and paid aides have not been heavily involved in instruction. Most commonly, they relieve teachers of clerical and housekeeping chores, and supervise children in follow-up work or play, so that the teachers have more time for instruction. Tutoring by volunteers who do not necessarily have teaching credentials is a relatively recent trend. If volunteers are effective in this role, a great many more children could receive individualized instruction.

PREVIOUS RESEARCH FINDINGS

A review of the literature indicates that most tutoring projects that have been evaluated involved high school and upper elementary students tutoring younger students. Often the student tutors themselves have had problems in the subject of tutoring; and the experience is intended to give them a boost as well as their pupils.

Reading first, and then mathematics, seem to be the favorite subject areas for tutoring. Most reports describe projects with quite narrowly focused objectives--for example, children will be able to produce the sounds associated with the letters of the alphabet and name the letters, or children will increase their sight vocabularies by x number of words by the end of the tutoring period. The tutoring periods most commonly were brief - 4 to 10 weeks.

A number of studies have considered the effects of tutoring on the self concepts of tutors, tutees, or both. More positive self-concept has been regarded as a potential by-product of the tutoring experience. No study was found of a project that defined and applied direct methods of helping children improve their self-concepts.

Although ORI's review of previous research was not exhaustive, it indicated that tutoring projects of all kinds generally have been found successful in improving their target academic skills, sometimes successful in improving motivation to achieve, and rarely successful in improving self-concept. The literature is not without contradictions, but these trends are clear.

Generally the reported projects involved some kind of pre- and post-tutoring test (or tests) and a control group of children. The projects tended to be small, rarely involving more than 50 tutored children. No previous project was found to have the diverse settings and geographic dispersal of Upswing, which was conducted in four cities over the United States.

While it is easy to fault other's research methodology, it should be noted that in many cases evaluation reports leave important questions unanswered and indicate less than rigorous procedures. The Upswing experience makes it easy to sympathize with problems in ensuring "clean" data. However, some caution should be used in accepting the reported success in many cases, especially when very small numbers of children were involved.

It is worth noting that several studies in which tutors were required to use a programmed instructional procedure suggest that this may be a more fruitful approach for tightly-defined, strictly academic objectives than leaving it up to the tutor to plan instruction.[1] There are some problems with a strict programmed approach, however. One of particular importance is that it requires selection of children on a rather narrow set of characteristics. A second major problem related to the first, is that it is easy to overlook individual differences; adherence to the program may take precedence over the child, especially when the tutor is relatively unsophisticated. Third, for a long-term project, strict adherence to a program can bore both child and tutor. A programmed approach may be essential when tutors are young, and may be both more comfortable and more effective for some older tutors in certain kinds of projects. **Upswing tutors had access to programmed materials and still preferred planning their own approaches, although they wanted guidance.**

OVERVIEW OF PPOJECT UPSWING AND ITS SIGNIFICANCE

Project Upswing was a two-year pilot program studying the effects of tutoring by adult volunteers on first-grade children who demonstrated nonspecific learning difficulties that were expected to influence their reading achievement. The idea was to intervene before a failure pattern could be established. Preserving or boosting children's self-esteem was an important consideration. Approximately 800 children received Upswing tutoring. The children were quite heterogeneous in causes and manifestations of learning difficulties.

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[1] Harris, 1967; Ellison *et al.*, 1969; American Institutes for Research in the Behavioral Sciences, 1971. See Appendix A for complete references.

Essentially, the evaluation of Upswing involved comparison of tutored children with a control group for changes in reading skill, visual-motor integration, and self-esteem. The project design called for groups drawn randomly from a pool of candidates for tutoring selected by teachers. The groups were checked for comparable initial reading and visual-motor skills, and comparable IQ, through analysis of a preliminary test battery. A follow-up analysis was done for the children tutored in the first year of Upswing to see if gains would hold over a year without tutoring.

A special feature of the Upswing evaluation was its focus on training issues. It addressed the questions of whether training is necessary, if so, why, and what kinds of training are preferable. The evaluation also looked, with particular care, into the relationship between reading difficulty and self-esteem, and the effect of the one-to-one relationship on self-esteem. Finally, the evaluation included analysis of operational data from the two-year project development effort to determine whether different management approaches seem to influence tutors' effectiveness and satisfaction.

The rationale for Project Upswing was as follows:

1. If an inexpensive approach can be developed to identify children with nonspecific learning problems in the first grade, and if an inexpensive general treatment can be applied effectively to that group, then large numbers of children can be helped through the crucial first year of school. This could substantially reduce the number of failure-oriented children who require expensive remedial treatment, which, when given, often is to no avail. Such a program could be applied in remote communities where professional help is scarce or nonexistent.
2. It is clear that professional diagnosis and treatment cannot be employed in any ultra-low-cost programs. As an alternative, Upswing used teacher screening as a rough form of diagnosis. Teachers generally have definite opinions as to which children in their

classes need special help. With minimal training in the use of diagnostic checklists, teachers can identify a hetergeneous population of children with learning problems. Although the specific causes of the problems may not be known, the general problems may be diagnosed. The best treatment perhaps would be based on a full understanding of a child's problem, but this is prohibitively expensive in most cases.

3. As an alternative to specific professional treatment, Upswing used a very general affective approach applied by volunteers. The treatment was different for each child, because each volunteer introduced his or her personality as a key feature of treatment. The plan was heavily dependent on the volunteer's ability to form a relationship with the child and perhaps boost self-esteem.
4. The actual cost of such a program if put into practice on a moderate scale with a salaried management could be about $80 per child per year. The issue of whether the cost of such a program can be justified revolves around the following:
    a. Can such a program help a significant number of children achieve at least at a passing level?
    b. Can such a program help children increase their reading ability?
    c. Can such a program help children raise low self-esteem?
    d. Can such a program reduce needs for remediation?

The task of evaluating Project Upswing was to determine if the effectiveness of the program in any or all of these areas was sufficient to justify its cost.

II. DESCRIPTION OF PROJECT UPSWING

Upswing children were tutored individually twice a week--in school, but outside the classroom. Tutoring sessions lasted 45 minutes to an hour. The tutor was supposed to concentrate on establishing a warm, relaxed relationship with the child to help him

- Develop and maintain a positive attitude toward academic tasks
- Acquire the reading skills expected at his age
- Develop his self-esteem as a person and, in particular, as a learner.

Tutors received training for their work from a university school of education staff. A broad-brush approach to training was used. It covered a variety of topics from child development, to description of specific types of learning problems, to techniques of teaching reading and writing, to behavior management and positive reinforcement. The importance of fostering ego strength was a constant theme.

In the first year of Upswing, half of the tutors received only a brief orientation; this group provided a control for checking the need for training. In the second year, all tutors were offered training of some kind.

Teachers received a very brief orientation to project objectives and procedures in the first year, which they did not find adequate. In the second year they received a more extensive orientation. In addition, follow-up was conducted throughout the tutoring period, generally in the form of group sessions, to ensure that teachers' questions and problems concerning the project were resolved and to give project staff an opportunity to receive teachers' suggestions. In some cases, teachers received instruction in techniques of diagnosing and helping to correct learning difficulties and in the philosophy and practice of positive response to children's behavior.

A new group of children was involved each year. The effects of tutoring were evaluated at the end of each year by comparative analysis of pre- and post-tutoring test results for tutored children and a control group. Attitudes and opinions of tutors, teachers, principals and university staff were weighed against the test results. The original group of children was followed through testing and through evaluation by their second-year teachers, to see if the effects of one year of tutoring would endure.

INSTITUTIONS INVOLVED IN UPSWING

Upswing was conceived by Volunteers in Education, a unit of the U.S. Office of Education (USOE), Department of Health, Education and Welfare. USOE gave grants to university departments of education in five cities to plan and conduct the project. They were: University of Denver, University of Missouri, St. Louis; California State University, San Francisco; University of Mississippi at Oxford; and University of Cincinnati. The last university was unable to meet the project requirements and was dropped from the study. Although university staff had major responsibility for the project, in all cases it was a cooperative effort of that group, the local school system, and, where one existed, the local school volunteer organization. An independent evaluation of Upswing was performed by Operations Research, Inc., (ORI), Silver Spring, Maryland, under a contract with USOE's Bureau of Education for the Handicapped, Division of Research.

DESCRIPTION OF BASIC PROJECT ACTIVITIES

Volunteer Recruitment

Volunteers were recruited by the university project staffs, in some cases with the help of the local school volunteer organizations. Newspapers, television and radio announcements were used, project directors spoke before community groups, and in some cases university students were sought through classroom announcements and bulletins. Recruitment campaigns took place in the summer before each school year, although efforts to get enough volunteers often continued into the fall when, for example, elementary school principals were asked to refer potential volunteers to Project Upswing.

Selection of Elementary Schools

The project directors worked with school system administrators and principals to select schools for the project. The choices were made to obtain a geographic and socioeconomic mix of schools in each city, within the limits of principals' willingness to participate. Oxford, Mississippi, has only two schools--one for the city and one for the county, the latter drawing children primarily from rural homes. Both schools participated. Nineteen Denver schools were involved in the first year of Upswing, eight St. Louis schools, and 10 in San Francisco. In the second year, five to six schools were involved in all cities except Oxford. The number was reduced to make the project management easier. Throughout the project, more schools wanted Upswing than could be included.

Selection of Teachers

Principals asked first-grade teachers to participate in Project Upswing. Teachers could refuse, but few did.

Selection of Children

The first-grade teachers in participating schools were asked to identify children for the project. They did so based on observation of their students during the first month of school. In Upswing's first year, child identification was left entirely to the teacher, except that they were asked to make decisions based on the following broad criteria:

- The children should appear to have *potential for normal functioning*; i.e., they should not be severely handicapped intellectually or physically.
- The children should show signs of being unable to function normally in the classroom setting because of some difficulty, such as a perceptual problem,

delayed establishment of left-right dominance,
relative lack of basic experiences, etc.

In the second year of Upswing, teachers were instructed in techniques of observing children in an orientation/training meeting held shortly after school opened. Teachers also were given a readiness inventory to use as a check on their selections (the Cegelka Academic Readiness Evaluation).

It should be noted that teachers did not fill out the readiness inventory for all of their pupils. They first screened subjectively and then completed the inventory for those children whom they considered to have the greatest number of problems or (within the limits of the Upswing criteria) the most serious problems.

The Upswing project directors divided the children referred by teachers into two groups, one that would receive tutoring and one that would not. This was supposed to be done on a random basis, within the following two constraints. No teacher could have more than six students involved in Upswing, to ensure that the project would not be a burden. Further, insofar as possible, each teacher had an equal number of tutored and control group children, to hold constant the effects of classroom experiences. The analysis of test data indicates grouping was not always randomly done. It appears that sometimes project staff responded to pleas from teachers to give tutors to the children who had the worst problems, or that project staff did so on their own after examining the readiness inventories.

All children identified for the project were tested at the beginning of the school year. The test battery included:[1]

- Wide Range Achievement Test (WRAT), Level I, Reading Subtest--to measure change in reading skills component of school performance

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[1] In the first year of the project testing was done rather late and went on after tutoring began. Most was completed in November and December 1971; some, however, was not done until January 1972. In the second year, all testing was done in October 1972.

- Beery-Buktenica Developmental Test of Visual-Motor Integration--to measure change in psychomotor behavior defined as level of visual-motor integration skill
- Test of Basic Experiences (TOBE), Level L, General Concepts Subtest--to measure change in grasp of fundamental concepts relevant to school performance--such concepts as size, location, congruity, distance, etc.
- The Funny Faces Game, an inventory of self-perceptions in relationships and situations encountered by children starting school.

An IQ test, a behavior rating scale, and the Metropolitan Achievement Test, reading subsection, were used in the first year, but dropped in favor of the TOBE, and the self-esteem inventory.

The pretest battery was readministered at the end of each school year. Post-testing was done at the end of April or in May.

Volunteer Training

Volunteers were introduced to the project in meetings held each year before tutoring began. The purposes of these meetings were:

- To acquaint participants with the goals of the project and its organization
- To give them some information about child development and the characteristics of children with learning difficulties
- To introduce them to procedures they would be expected to follow in the schools
- To describe the kinds of materials available for use in tutoring.

Meetings were held during the tutoring period to provide further training in specific instructional techniques and to work on problems that arose in the tutoring situation.

In general, the first year's training was more formal and more heavily preservice. Considerably greater emphasis was placed on continuing support to volunteers during tutoring in the second year. For the second year, the project director and staff in each city developed the training program they felt would best meet the needs of their volunteers.

As noted previously, half of the volunteers in the first year received orientation only. Generally the project directors followed volunteer preference in making group assignments, within the constraint that the groups had to be approximately equal in number. This was not a good approach methodologically, since it admits the possibility of group differences in motivation, self-confidence, or both. However, there was evidence that arbitrary assignments would cause people to quit, or at least promote some dissatisfaction, causing a different type of bias. In terms of sex, level of education, income, and relevant training and experience, the groups were reasonably well matched.

Teacher Orientation/Training

One or more meetings for teachers was held before tutoring began, to acquaint them with the goals and organization of Upswing and to discuss selection of children as described above. Teachers had only a brief orientation in the first year of Upswing; in the second year teacher workshops were held in two cities throughout the tutoring period. In some cases, Upswing provided teachers with information on instructional techniques in addition to soliciting their ideas for tutors. As was true for volunteers, a great deal more emphasis was placed on continuing interaction with teachers in the second year of Upswing.

Tutoring

Time and Place. Tutors and children met twice a week for 45 minutes to an hour per session. Tutoring was done at school, during school hours, but outside the classroom in auditoriums, hallways, multipurpose rooms, cafeterias, or wherever space could be found.

Lesson Plans and Content. Tutors prepared their own plans. They were asked to set aside one hour per week for this purpose. In some cases they were required to use lesson plan forms and turn them in to Upswing staff for review. That requirement generated some dissatisfaction among the tutors, but some projects found it helpful in "quality control" and in providing more relevant assistance to tutors.

Although tutoring was supposed to focus on reading, self-esteem, and visual-motor coordination, volunteers found themselves responding to a variety of needs of their individual pupils. The feeling was that it is difficult and inappropriate to isolate skills when working with children so young.

Tutoring Materials. Some materials were provided by the project-- e.g., a commercial language development kit, a programmed reading system, books, games and puzzles, etc. Some schools provided paper and art supplies. Volunteers at times arranged with teachers to use classroom materials. They also bought, borrowed, and made materials on their own. They favored using a variety of simple materials, and many put aside the project-supplied language and reading kits because they felt their pupils wanted a change or that those materials were complicated to use.

Special Activities. Some tutors got permission to take children out of school on special trips, took them out on weekends, visited in their homes, or invited the children to visit them at home. Such extras were done on the volunteers' initiative. The project did not suggest or assist in activities outside of school, but in a good number of cases tutor and child developed a special kind of friendship.

Teacher-Tutor Interaction. The degree of interaction between teachers and tutors was according to individual predispositions. Tutors called for their pupils at the classroom and often talked briefly with teachers then. Conferences had to be held at lunchtime, after school, or some other time when teachers were free. Telephone conferences were fairly common. In general, there was more tutor-teacher interaction during the second year. The increased interaction was fostered by project staff, after it was found in the first year that both tutors and teachers felt a need for more communication with each other.

Communication Between Upswing Staff and Participants. Upswing staff often served as liaisons between teachers and tutors, in addition to talking regularly with each individually and maintaining communication with principals. This was more true in the second year of the project, when a staff member visited each school at least once a week, offering tutors advice, assistance, and reassurance as needed, and checking with teachers for problems or observations.

CHARACTERISTICS OF TUTORS AND TEACHERS INVOLVED IN THE PROJECT

The following data were taken from the "First Impressions" questionnaires completed by tutors and teachers in the second year of Upswing. These groups were very similar from year to year; in fact, about 40% of the tutors and 72% of the teachers participated both years. The characteristics of children involved are described in Section IV, as a preface to analysis of tutoring impacts.

Tutors

Almost all of the Upswing tutors were women—either college students or homemakers not otherwise employed. The Oxford project supplied most of the college students (about 70% of Oxford tutors were in that occupational category); the St. Louis project also involved a significant number of students (about 40% of that city's tutors).

The age distribution was skewed to the young side by the college student concentrations. Still, considerable variation in age existed. The range was under 21 to over 60 years, with most between 21 and 50. In short, people of all ages were attracted to Upswing.

The tutors tended to be well-educated. About half attended college but had not completed undergraduate work. About 30% had completed bachelor's or advanced degrees. Only two had not finished high school. About 45% of the tutors had previous direct relevant training in child development. From the distributions of response in each city, the 40% were not necessarily college students.

The tutors also tended to have relevant experience. It was previously noted that 40% worked in Upswing both years. Roughly 50% had experience outside Upswing, as tutors, teacher aides, or teachers. These forms of experience were not cross tabulated, and some overlap can be assumed. However, it appears reasonable to estimate that 60%-70% of the tutors had relevant experience from some source. Forty-one percent had worked outside Upswing with children who had learning difficulties.

Socially, Upswing drew the kind of tutors one might expect to draw for tutoring during school hours. The tutors generally appeared to be socioeconomically advantaged, well-educated, and community-service oriented. They were people with time and energy, to actuate their motivation to contribute to children's education. Unsuccessful efforts were made, particularly in the first year, to attract people with more varied background. Certainly different recruitment approaches would be required to accomplish this and probably it would be necessary to have greater flexibility about certain features of Upswing organization (time commitment required, tutoring hours, etc.).

The characteristics of Upswing tutors are important because of the evaluation findings about the insignificance of training in helping children. It may be that this finding is only valid for tutors like those currently in Upswing. It is also clear that it would be more difficult to plan training that would satisfy a majority of a less homogeneous group. Much different and more varied training approaches would be needed. The individual support that was a feature of the second year of Upswing seems much more promising for tutors of divergent background.

Teachers

Since most of the teachers involved in Upswing's second year also were involved in the first, and background was not related to Upswing results, extensive data were not collected again.[2]

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[2] For details of the first-year population, see P. Plantec, *et al*, *Evaluation of Project Upswing: Interim Report*, Technical Report No. 700. Silver Spring, Maryland: Operations Research, Inc., January 1972.

About 40% of the second year teachers said they had worked before their participation in Upswing, with children who had learning difficulties. About 60% said they had worked previously with a volunteer aide. **The most striking response from teachers was that only 40% overall, and no more than 54% in any city, said they had any training in child development other that that provided by Project Upswing.** This is somewhat difficult to believe; but if it is true, then Upswing would appear possibly to have made a very important contribution to the backgrounds of teachers who attended training.

III. THE EVALUATION METHODOLOGY

In broad terms, Upswing's fundamental hypothesis was that a child who experiences a one-to-one facilitating relationship with an adult tutor will make better progress in overcoming learning difficulties than a child who does not experience such a relationship. A further hypothesis was that this kind of relationship in the first year of school can prevent failure and therefore is preferable to the common, but expensive, remedial approach. Beyond testing these hypotheses, the evaluation has tried to identify variables that have impact on tutoring results—that is, the evaluation has tried to find out what, specifically, makes tutoring successful.

PRELIMINARY METHODOLOGY

Comparison Groups

In the first year of the study there were three comparison groups for the evaluation of tutoring effects on children. Children were identified by teachers in each city as candidates for Upswing tutoring. These were all children who appeared to be capable of normal functioning, but in whom the teachers recognized signs of various minimal learning difficulties, particularly in development of reading skills. The children were divided randomly into three groups: one that would be assigned untrained tutors, one that would be assigned trained tutors, and one that would have no tutors. All of the children then were tested. Analysis of test results on IQ, initial reading level, and visual-motor integration, showed that the randomly drawn groups were very similar in these attributes.

The analysis of change in test results from initial to final battery was a simple, two-way design involving comparisons of all tutored children versus untutored children and then of those tutored by trained volunteers versus those tutored by untrained volunteers. First, each city's project was treated separately. At this level of analysis, no meaningful differences between test results of comparison groups were found. After that was determined, the analysis was performed on aggregate data (children with trained tutors in all cities combined, etc.). Pooling the data for the four cities produced different score distributions for the comparison groups, and pooling the city samples provided a larger sample base with a resulting increase in statistical precision. The statistical procedures used, adjusted for probability of error, etc., uncovered small but significant group differences.

Variables

The primary criterion or dependent variable of the evaluation was change in reading skill as measured by the WRAT. Change in visual-motor integration, as measured by the Beery-Buktenica Developmental Test, also was investigated. In addition, the evaluation considered change in other aspects of psychomotor control (distractibility and hyperkinesis), change in oral language skills, and change in self-esteem as observed by the adults in the study.

The primary independent variable was child's status vis-a-vis a tutor--i.e., whether the child had a tutor at all, and if so, whether that tutor was trained or untrained. The evaluation also looked at impact on tutored children of such tutor and teacher characteristics as age, level of education, experience working with children at the age level and with children who have learning problems, and (for tutors only) income level. Finally, it was hypothesized that a number of psychosocial variables would influence tutoring outcomes. These variables included, for example, the quality of relationships between tutor and child and between tutor and teacher, the teacher's feelings about working with volunteer aides in general, the tutor's confidence in his or her ability to help the child, the tutor's satisfaction with training or orientation and with Upswing in general, etc.

Data Sources

The reading portion of the Wide Range Achievement Test and the Beery-Buktenica Developmental Test of Visual-Motor Integration were administered at the beginning and end of tutoring to obtain measures of the dependent variables change in reading proficiency and change in visual-motor integration skill. The Slossen IQ test was administered only at the beginning of tutoring. Questionnaires completed by volunteer tutors and teachers were the data source for measures of all other study variables.

Statistical Techniques

Analysis of test score distributions was used to determine whether tutoring affected the children in the criterion areas of reading and visual-motor integration. The Student's T-test was used to determine the significance of differences between group mean test results. A significant level of 5% was selected as the criterion for accepting or rejecting all null hypotheses.[1]

Multiple linear regression analysis was used for deeper-level evaluation to identify variables that appeared to exert greatest influence on tutoring results. For this purpose, change in tested reading level was taken as the dependent variable. Initial test scores, change scores, indicators of tutor and teacher background, and indicators of attitudes of participants and their relationships all were included in the regression as independent variables. In addition, tutors' and teachers' subjective assessments of certain kinds of changes in the children were included to see how they would relate to test outcomes and to each other. These "psychosocial" indicators were created using a modified Likert procedure to scale response alternatives by how favorable to child progress they logically appeared to be.

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[1] The T-test is based on probability theory. Essentially the test estimates the likelihood that the means of two distributions differ by chance. When the differences between two means is found significant at the 5% level, that indicates the difference probably would occur 95 times out of every 100 times the experiment was repeated. If the experimenter selected a significance level of 10%, he would make a decision to accept a difference between his study groups as real if the T-test showed it would be likely to occur 90 times out of every 100 times the experiment was repeated. The percentage represents the margin of error the experimenter is willing to tolerate. For statistical reasons too involved to explain here, the lower the significance level selected, the lower the chance that your "significant" findings are due to sampling error.

Multiple linear regression procedures produce an equation that predicts the value of a dependent variable (in the Upswing case, number of points change in reading test score) from the values of ordered independent variables. The mathematical model assumes that the relationships between the dependent and independent variables are linear. That is, the model assumes that as the value of an independent variable x increases, the value of the dependent variable y will increase, or will decrease, in a straight-line fashion for all observations. The model is undermined to the extent that increases (or decreases) in x sometimes are associated with increases in y and sometimes with decreases in y.

The regression output indicates the order of the independent variables in terms of "goodness of fit." If there were a perfect relationship between the true and predicted values of y, the fit would be perfect--i.e., if the two sets of values were plotted, the connected points would be superimposed. Goodness of fit is expressed as a multiple correlation coefficient, "multiple r." Perfect fit yields a multiple r of 1.0, while no predictive power (no apparent linear relationship between x and y) yields a multiple r of 0. The square of the multiple correlation coefficient expresses the amount of common variation between the independent and dependent variables.

If the true values of y were predicted from the values of a single independent variable, there would be no need to consider other variables; knowledge of that x would tell the value of y. In the absence of such a perfect association, the regression keeps trying; it adds in the information about y from successive independent variables, gradually perfecting the fit between the prediction and the true values of y. The procedure stops when a perfect fit is obtained (multiple r = 1.0) or, as is most often the case, when none of the remaining independent variables increases the value of r, i.e., helps to improve the fit between the true and predicted values of y.

Multiple linear regression was used as a detective device in the analysis of Upswing data. It enabled us to identify which of the numerous independent variables hypothesized to have some bearing on development of reading skills appeared worthy of further consideration. It also provided insights about relationships between the dependent variables. Finally, it gave an idea of how much of the variation in reading progress we could hope to explain by the kinds of factors or conditions that had been considered.

PRELIMINARY EVALUATION RESULTS[2]

Reading

Analysis performed at the end of the first year of tutoring showed that tutoring did increase children's rate of progress in development of reading skills as measured by the WRAT. The difference in point gain on the reading test was highly significant ($\alpha = 0.001$). In short, it is highly unlikely that the test results turned out as they did due to chance error.

In an absolute sense, gains were real but modest all around--an average of 7.5 age-adjusted standard score points for tutored children and an average of 4 points for untutored. Still, the changes represent catching up; if a child does not increase his rate of progress, but merely continues to develop at his original rate, his age-adjusted standard score will remain the same. (If a child stops progressing, his score will drop, since he is growing older, as of course it will if he regresses.)

The analysis found the expected inverse relationship between initial and final reading test score. Children who scored lower at the beginning tended to make higher scores at the end of the school year. In a test-retest situation involving large enough numbers of children, scores tend to converge toward the mean. However, in Upswing a ceiling may have been operative as well, because of the homogeneous IQ grouping and because of teacher or tutor expectancies. Children were selected for inclusion on the basic of average IQ. It appears that they may have been reaching their level of performance potential or the level perceived as appropriate by those working with them.

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[2] A detailed presentation is available in Operations Research, Inc., *Final Report on the Evaluation of Project Upswing's First Year*, Technical Report No. 731, December 1972.

Gains in reading proficiency were established based on an individually-administered test. A group test of reading achievement also was used. It yielded erratic results initially and contradictory results at the end of the year. In general, if any conclusion can be drawn from the group test data, they showed the children doing very poorly in reading. This occurred probably, at least in part, because the test involved mark-sense coding and the children were first-graders with problems in visual-motor integration. Thus they were unable to keep from making stray marks on the test forms. This caused machine scoring errors. In addition, young children are unlikely to be self-motivated to achieve, as required by the large-group mode, in a formal test situation. Evidence indicates that children of that age often find a test setting irrelevant or incomprehensible.

It is possible that examiners prompted children in individual testing. However, all examiners had some training and experience in test administration, and the results in four cities were consistent. We conclude that the results of the individually-administered test are reasonably reliable and that it is a much better test, at least for young children.

The differences in outcomes of the two types of tests are important beyond the scope of Upswing, since schools usually are evaluated on the results of group-administered achievement tests. (Although such tests are norm-referenced, we do not believe that necessarily resolves the problem of unfair evaluation caused by measurement of extraneous variance.)

Relationship Between Tutor Training and Children's Progress in Reading

Tutor training status had no meaningful effect on children's tested progress in reading or in any other area under study. This finding could reflect on the type of training given (primarily preservice orientation in a group lecture mode, with minimal follow-up during tutoring). Since training did not influence the tutors' success, it is most interesting that trained and untrained alike generally thought training important and wanted to be trained. Teachers also thought trained volunteers generally were better and said they preferred to work with them.

Visual-Motor Integration

Both the **tutored and untutored groups made virtually no progress in acquiring visual-motor integration skills.** Both groups got about the same results on the final test in this area as on the initial test; i.e., both groups continued to score well below expectancy for their age level.

Relationship Between Reading and Visual-Motor Integration Test Results

There appears to have been some negative relationship between visual-motor skills and reading proficiency. A low negative correlation was obtained between tested reading and visual-motor integration levels, both at the beginning and end of the tutoring period (r = -0.13) for the two sets of initial test results and r = -0.12 for the two sets of final test results.

Relationship Between IQ and Reading Test Results

The Upswing data support the position that **IQ, within the average range, is not an important factor in *progress* in development of beginning reading skills (decoding).** The correlation between change in tested reading level and IQ was -0.09. The correlation between initial reading score and IQ was relatively high, 0.52, while the correlation of final reading score and IQ was lower, 0.40, as expected. There was limited variance in IQ among Upswing children since they were selected on potential for average functioning. No more than 5% scored outside the average range (approximately 76-124) on the Slossen IQ measure. Variance in reading scores increased over the tutoring period, thus the lower correlation between IQ and final reading scores.

Influence of the Independent Variables Selected for Study

The regression analysis identified 35 independent variables that together "explained" about 35% of the change in reading level. The easiest way to interpret that finding is to say that, theoretically, if one knew the values of the 35 independent variables brought into the regression, one could predict the amount of change in a child's reading achievement score with about 35% accuracy. This is quite a modest finding, but not insignificant in light of the inconclusive findings available on factors associated with development of reading skills. Much of the 65% unexplained variance probably is attributable to psycho-environmental and historical factors we were unable to measure.

In common with most researchers, we found that characteristics of the child had most to do with the amount and direction of change in tested reading level. For example, change in child's level of self-esteem (as judged by volunteer) was found to be the second best predictor variable. Other comparatively important variables included change in child's ability to pay attention (distractibility), child's response to tutoring activities, child's overall progress--all as assessed by the volunteer tutor; and change in child's oral language skills and ability to pay attention as assessed by the teacher.

The best predictor, however, turned out to be an indicator based on the volunteer tutor's feelings about whether he or she was adequately prepared to use teaching methods and materials in tutoring. We do not know whether a tutor who feels adequately prepared is more effective or whether a tutor's opinion about adequacy of preparation depends on the child's progress. Probably that is an individual matter. The correlation between reading progress and tutor feelings about being well prepared was slightly higher than 0.3.

This is a reasonably high correlation for such data. Thus the finding would be significant if indeed it were clearly a matter of tutor preparation versus child progress. However, the subjective measure of tutor-perceived adequacy is probably highly related to feedback the tutor obtained from his or her perception of the child's improvement. Thus this correlation probably is mediated by the tutor's ability to observe child progress.

The relationships between test results and tutor and teacher assessments of progress in reading were intriguing overall. Both subjective assessments showed rather low correlations with change in test score. However, the volunteers showed some ability to assess progress similar to that measured by the WRAT. It was interesting to note that teachers appear better able to perceive progress as measured by the group test of achievement, while volunteers are more sensitive to the type of progress measured on the individual test. This may say something about the perceptual set of the observer.

FINAL EVALUATION METHODOLOGY

The remainder of this section describes the rationales and procedures used in the evaluation of Project Upswing's second year, which included first-year follow-up. The findings from this evaluation are reported in Section IV (tutoring effects on children and follow-up findings) and Section V (project management strategies and training approaches).

The preliminary analysis indicated it would be wise to separate the evaluation of tutoring effects on child progress from evaluation of project management strategy and training approach. The latter domain is important to a successful project in itself, regardless of the difficulty of relating it to what happens to the children. A third domain of the final evaluation was the staying power of tutoring effects on children from the first year of Upswing over a year without tutoring.

With regard to measurement of tutoring effects on children--both immediate and over time--emphasis was put on improving the operational definitions of the variables by upgrading the test battery and reducing field error noise. An experimental objective measure of self-esteem was added to measure this important variable on an ordinal scale. The Test of Basic Experiences (TOBE) was used to obtain a proxy measure of family background factors. (In the first year information about family background was sought through a questionnaire for parents, but the nonresponse rate was so high this approach was abandoned.) Data were collected on special educational services other than Upswing tutoring, since the evaluation team learned in site visits that it was not uncommon for both tutored and control children to receive other forms of help. Reduction of the field error in testing was accomplished by requiring that all examiners be trained for Project Upswing and by rescoring a sample of all tests.

For the evaluation of training and project management, the opinions of tutors, teachers, principals and project staff were sought through questionnaires and informal interviews. The evaluation team made site visits to observe training throughout the year, and visited the schools in which Upswing tutors worked. In addition, a field data coordinator, hired in each city to assist in collection of evaluation data, was required to provide minutes of all training sessions.

Comparison Groups

Only two groups of children were involved in the second year of Upswing--tutored and untutored. The child groups were to be drawn randomly by project staff from a pool of candidates identified by teachers, with the constraints that no teacher was to have more than six pupils involved and that half of each teacher's referrals should be assigned to the experimental group and half to the control group. All volunteers were offered training. This decision had to be made before the end of the first year of tutoring because of the timing of project grant decisions. Thus the first-year evaluation results were not available. The evaluation showed that trained tutors were no more effective than untrained and, comparatively, cost a good deal more. However, the evaluation also showed that the tutors wanted to receive training and that teachers preferred to work with trained tutors.

Variables and Data Sources for the Analysis of Effects on Children

The primary criterion (dependent) variables established for the evaluation were:

- Change in level of reading skill as measured by the WRAT
- Change in level of visual-motor integration skill as measured by the Beery-Buktenica Developmental Test
- Change in level of self-esteem demonstrated on the experimental "Funny Faces Game."

As a check on the self-esteem measure, data on children's self-confidence in the one-to-one tutoring situation were sought from the volunteer tutors, and data on self-confidence demonstrated in the classroom by both tutored and untutored children were elicited from teachers. (Copies of the data collection instruments--"Student Profiles"--used to obtain the tutor and teacher assessments of children are included in Appendix B.)

The primary independent variable again was whether the child had a tutor. Other variables hypothesized as likely to influence change in the criterion areas are shown, with data sources indicated, in Table 1.

Variables and Data Sources for the Analysis of Tutoring Effects Over Time

The follow-up analysis considered whether one year of Upswing tutoring influenced children sufficiently to distinguish them in the subsequent school year from the Upswing children who did not receive tutoring. The primary criterion variable was level of tested reading skill after the year without Upswing, compared to tested reading skill immediately after the Upswing experience. Other potential differences that might be attributable to Upswing tutoring also were investigated, such as self-esteem, class standing, and need for special services in the second year. Table 2 lists the follow-up variables, measures, and sources of data.

As Table 2 shows, the primary independent variable was dichotomous: tutored/untutored status. The assumption underlying the analysis is that psychoeducational variables other than tutored status would be randomly distributed in both populations. The objective of the analysis was to determine the staying power of the Upswing effect on reading level achievement compared with the "normal" progress of the control group.

Variables and Data Sources for the Analysis of Project Management Strategy and Training

The criteria for this part of the evaluation all had to do with the satisfaction of participants. There were no subdivisions of management and training approaches within cities; further, because of the numerous undefinable environmental differences between cities, we did not feel it would be valid to evaluate the cities' often divergent methods based on changes in the children.

TABLE 1

VARIABLES, MEASURES, AND SOURCES OF DATA FOR THE ANALYSIS OF TUTORING EFFECTS ON CHILDREN

Dependent Variable	Measure—Data Source	Independent Variable	Measure—Data Source
A. Change in level of reading skill	Difference between initial and final scores on Wide Range Achievement Test (WRAT)	Child's background of basic knowledge (an indicator of home characteristics relevant to school performance)	Initial score from Test of Basic Experiences (TOBE)
		Child's initial level of reading proficiency	Initial WRAT reading score
		Child's initial visual perceptual-motor skills, initial auditory perception skills, initial language-speech skills	Initial scores from Cegelka Academic Readiness Evaluation (CARE)
		Number of hours tutoring child received	Records kept by ORI field data coordinator in each city
		Special services child received outside Upswing	Information from questionnaire for teachers
		Whether child attended kindergarten	Information from questionnaire for teachers
		Child's sex	Project records
B. Change in level of self-esteem	Difference between initial and final score on Self-Esteem Inventory	Same as criterion "A"	Same as criterion "A"
C. Change in level of visual-motor integration skill	Difference between initial and final score on Beery-Buktenica Developmental Test of Visual-Motor Integration (VMI)	Same as criterion "A", plus volunteer's assessment of emphasis placed on motor and visual-motor coordination activities during tutoring	Questionnaire data

TABLE 2

VARIABLES, MEASURES, AND SOURCES OF DATA FOR THE ANALYSIS OF TUTORING EFFECTS OVER TIME

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Dependent Variable	Measure—Data Source	Independent Variable	Measure—Data Source
A. Level of reading skill after a year out of Upswing relative to level of skill immediately after Upswing	Score on WRAT given at end of follow-up year versus score on WRAT given at end of Upswing tutoring the preceding year	Whether child received Upswing tutoring	Project records
		Child's sex	Project records
		Whether child received special services in follow-up year	Questionnaire for second-year teacher
B. Type of class assignment after a year of Upswing tutoring	Rating based on questionnaire for second-year teacher	Whether child received Upswing tutoring	Project records
		Score on WRAT at end of Upswing tutoring	Project records
		Child's sex	Project records
C. Special services given child in follow-up year	Questionnaire for second-year teacher	Same as criterion "B"; plus availability of special services in the school system	Information from project directors
D. Class standing at end of follow-up year	Rating by second-year teacher	Same as criterion "A"	Same as criterion "A"
E. Classroom behavior in follow-up year	Questionnaire for second-year teacher	Same as criterion "B"	Same as criterion "B"
F. Rate of absenteeism in follow-up year	Questionnaire for second-year teacher	Whether child received Upswing tutoring	Project records
G. Level of self-confidence in school	Rated by second-year teacher	Whether child received Upswing tutoring	Project records
H. Level of self-esteem as measured by objective test	"Funny Faces" self-esteem inventory administered at end of follow-up year	Same as criterion "A"	Same as criterion "A"

Table 3 states the variables of the management and training analysis, their measures, and the sources of measurement data. All measures included in the table are subjective but one--for effectiveness of teacher training in how to identify minimal learning difficulties (dependent variable B). The measure in that case was what the test data showed about the initial characteristics of the children teachers selected for Upswing.

One additional variable was considered in the analysis of management strategy and training--volunteer attrition. The attrition analysis was performed separately, because attritees may be a separate population whose opinions about a project should not be mixed in with the opinions of those who did not drop out. Nevertheless, rate of attrition may say something important about recruitment, project operation, or both. Attrition was analyzed in terms of percentage losses, timing, and the reasons for leaving given by those who dropped out, considered in the context of project structure and procedures.

Statistical Techniques

Tutoring Effects on Children. As a starting point for the final analysis, the distributions and basic statistics of pretest results were compared for tutored and untutored children to ensure that they were similar initially in the characteristics under study (tested reading level, self-esteem, visual-motor integration) and in background of basic knowledge as a proxy for school-relevant family background. The group of children was partitioned on both tutoring status and location of project ("city"). The latter classification variable was applied to ensure that no city was for some reason changing the nature of the overall distributions. The Student's T-test was used to check the significance of differences between the mean initial test scores of all possible combinations of status/city groups. F-ratios were computed to see if any groups were distinguished by magnitude of variance. For both T-tests and F-tests, a significance level of 0.05 was adopted (i.e., it was decided to reject the null hypothesis that there was no difference between groups in mean or in variance if $\alpha = 0.05$ or less).[3]

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[3] The information provided by the Student's T-test was very generally outlined for readers who are not familiar with the procedure, in the description

TABLE 3

VARIABLES, MEASURES, AND SOURCES OF DATA FOR THE ANALYSIS OF PROJECT MANAGEMENT STRATEGIES AND TRAINING

Dependent Variable	Measure—Data Source	Independent Variable	Measure—Data Source
Tutor role satisfaction	Modified Likert rating based on questionnaire data	Volunteer's feelings about support received from Upswing staff	Questionnaire data
		Volunteer's feelings about support received from teacher	Questionnaire data
		Volunteer's satisfaction with project communications	Questionnaire data
		Volunteer's confidence in effectiveness as a tutor	Questionnaire data
		Volunteer's experience and training relevant to children with learning problems	Questionnaire data
		Volunteer's age	Questionnaire data
		Volunteer's occupation	Questionnaire data
		Volunteer's level of education	Questionnaire data

TABLE 3 (Cont)

Dependent Variable	Measure—Data Source	Independent Variable	Measure—Data Source
Teacher role satisfaction	Modified Likert rating based on questionnaire data	Teacher's initial feelings about participation in Project Upswing	Questionnaire data
		Teacher's satisfaction with frequency of Upswing teacher meetings	Questionnaire data
		Teacher's satisfaction with amount of informal contact with Upswing staff	Questionnaire data
		Teacher's opinion of support provided to volunteers by Upswing staff	Questionnaire data
		Teacher's opinion of the value of volunteer tutors in working with children who have learning difficulties	Questionnaire data
		Teacher's previous experience working with a volunteer aide	Questionnaire data
		Number of years teacher has taught kindergarten and first grade	Questionnaire data
		Teacher experience and training relevant to children with minimal learning difficulties	Questionnaire data

TABLE 3 (Cont)

Dependent Variable	Measure—Data Source	Independent Variable	Measure—Data Source
Effectiveness of volunteer training program	Rating based on questionnaire data	Volunteer's opinion about need for training	Questionnaire data
	Attendance at training meetings	Volunteer's satisfaction with amount of training (group, individual	Questionnaire data
		Volunteer's opinion of schedule, location, physical environment, social environment of Upswing meetings	Questionnaire data
		Volunteer's opinion of content of training	Questionnaire data
		Volunteer's opinion of training materials used	Questionnaire data
Effectiveness of teacher training in how to identify minimal learning difficulties	Initial characteristics of children selected for Upswing, from WRAT, TOBE, CARE, VMI, Self-Esteem Inventory	Type of Instruction	ORI observation
Effectiveness of teacher training in promoting good volunteer-teacher working relationship	Teacher's assessment from questionnaire	Teacher's opinion about need for for teacher meetings in a volunteer program	Questionnaire data
		Teacher's satisfaction with frequency of Upswing teacher meetings	Questionnaire data

TABLE 3 (Cont)

Dependent Variable	Measure—Data Source	Independent Variable	Measure—Data Source
Effectiveness of teacher training in promoting good volunteer-teacher working relationship (cont)	Teacher's assessment from questionnaire	Teacher's satisfaction with knowledge of methods and materials used by volunteer	Questionnaire data
		Teacher's opinion of schedule, location, physical environment, social environment of Upswing meetings	Questionnaire data

The next step in the analysis was to look in the same way at change scores for each test. ("Change score" is used to refer to the difference between post-tutoring test score and pretutoring test score.) Through this step, the analytical procedure was much like that used in the preliminary analysis, except that city was used as a classification variable in the final analysis. City was used as a classifier, despite the fact that the child selection method was the same for all cities, because the data indicated that different groups of children were drawn. This may have been true in the first year of Upswing, but the preliminary analysis procedure was not sensitive enough to detect it.

Beyond this point, the final analysis took a different direction because of what was learned in the preliminary analysis. The final evaluation did not pursue identification of the impact of psychosocial factors such as volunteer-teacher relationship, etc. It was decided that although we believe this is a most important area for research, such inquiry would require attention focused on the development of stronger psychosocial indicators through careful attitude scale development. There was not time or budget for such an effort as part of the current Upswing evaluation.

Another important change was to drop multiple linear regression analysis and instead use analysis of variance with a covariance design, for exploration of the complex simultaneous influences of the independent variables on the criteria.

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of the preliminary analysis. The F-ratio, a product of one-way analysis of variance, is an indicator of the relationship between score deviations from the mean within groups and score deviations from the mean between groups. Without getting elaborate about how the algorithm works, if the variance (calculated from the deviations of individual scores from the mean) within groups is small in relation to the variance between groups, one can conclude that the groups represent different populations. A significance level, which takes into account the number of observations (in Upswing's case test scores) in each group, can be calculated that indicates the percentage probability that differences between groups were random.

Analysis of variance involves dividing up the total variation of the dependent variable into its component parts. These component parts are determined by the number of independent variables being considered, and how they are classified. For Upswing, the design was kept simple. "Status" always was used as a classifier with each of the other independent variables in turn. For example, the observations on a dependent variable, say, change in reading test score, were grouped as follows: change scores for tutored females, untutored females, tutored males, untutored males; as another example, tutored children with low scores, mid-range scores and high scores on the TOBE, untutored children who scored in those categories on the TOBE. The procedure then looks at the differences in variance between those groups versus their combined variance, and produces an F-ratio indicative of the probability that the groups are from the same population or from different populations.

The covariance design adds another refinement. It adjusts the dependent variable (or variate) for the effect of an independent variable (the covariate) that may have nothing to do with treatment but, nevertheless, enters into the treatment result. In the case of Upswing, we decided to adjust change in test score for the effect of the covariate, initial test score, because of the strong inverse correlation of these two variables. The net result is an increase in the clarity of the findings.

The final statistical procedure used was correlation analysis as a means of considering the relationships between dependent variables. Of particular interest was the relationship between change in self-esteem and change in reading test score, which, it was hypothesized, would have a reasonably high positive correlation.

Follow-Up Analysis. For the analysis of tutoring carryover effects after a year without tutoring, essentially the same techniques were used as for the analysis of effects of the second year of tutoring. There were only two differences. First, three groups of children were involved; the tutored group was split in the first year into children who worked with trained tutors and children who worked with untrained. Although training status of the tutor had no apparent effect on the children in the first year, the follow-up analysis took a look at the two groups separately, to make sure. We thought the tutor training status variable might have some influence on, for example, type of class assignment in the second year, since teachers generally believed trained tutors were more effective.

The other difference in follow-up analysis procedure was that it did not focus on change in test results, although change was considered. We worked with age-adjusted standard scores on the reading test, which would not necessarily be expected to change in the absence of "treatment." Although possible residual effects of treatment were investigated, the main question about reading was not how much children increased their rates of progress in the year following Upswing, but whether the children tutored in Upswing maintained the edge in standard score that they had established. There were no baselines for the other criteria used in the follow-up analysis. In the case of self-esteem, or class standing, for example, the analysis simply looked for significant differences between the children who were tutored in Upswing and those who were not.

Project Management Strategy and Training. This part of the final evaluation was quite straightforward. For the analysis of tutor and teacher role satisfaction and perceptions of training, rating scales were designed on a modified Likert format. These satisfaction ratings were cross-tabulated with data on the independent variables that were hypothesized to influence satisfaction. The evaluation team's subjective views of project organization and the training programs were used to interpret these results.

IV. ANALYSIS OF THE EFFECTS OF TUTORING ON CHILDREN

This section compares data on the tutored and untutored children who were involved in Project Upswing, in an attempt to determine the value of tutoring. The section is divided into four major parts:

- A review of findings about tutoring effects in the first year
- An examination for residual effects among first-year children after they had been out of the project for a year
- An analysis of the effects of involvement in the project on the new group of children tutored in the second year
- Conclusions about the impact of the project over both years.

SUMMARY OF FINDINGS FROM THE FIRST YEAR OF UPSWING

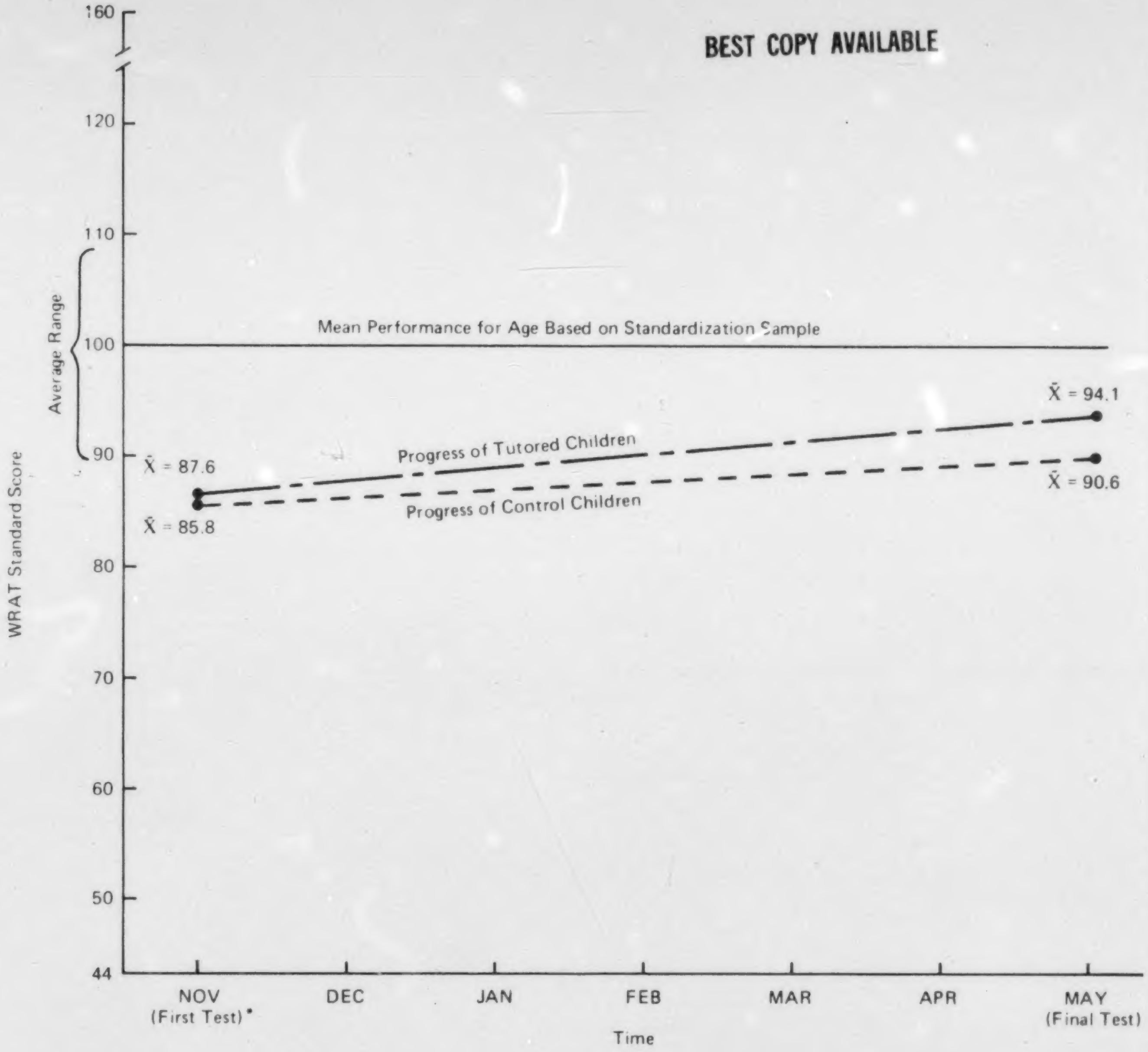
Children tutored in the first year of Upswing made better progress in reading than the comparison or control group of children who were not tutored. The gains on the Wide Range Achievement Test (WRAT), reading subtest, were modest for both tutored and untutored children, but significant in relation to the standard error of the test.

The initial test means for all Upswing groups fell into the low average range (80-90 points on the WRAT), with very small standard deviations. Thus the project began with a total group of children whose reading difficulties apparently were not severe and who were very similar to each other in level of reading skill. On the post-tutoring test, all group means (for children tutored by trained volunteers, untrained volunteers or not tutored) fell in the average category of WRAT standard scores (90-109 points). The mean gain for children with trained tutors was 7 standard score points; the mean gain for those with untrained tutors was 8 points, and the mean gain for untutored children was 4 points. The difference between the amounts of gain made by tutored and untutored children were found to be statistically significant. Figure 1 shows the relative rates of progress.

Children who started with lower test scores tended to make greater gains than children who started higher. It appears that, on a group basis, some kind of ceiling on progress was operative--perhaps expectancies of tutors and teachers for the reading skills of children of Upswing age.

None of the children improved their visual-motor integration skills in the first year of Upswing. They started and ended the school year with low skills for that age. Visual-motor integration (as measured by the Beery-Buktenica test) and reading ability appear, for this population, to be separate domains. It is possible that visual-motor integration problems were easy for teachers to observe and contributed to the child selection for Upswing as much or more than low reading ability. If so, the low correlation between reading improvement and visual-motor integration gains would indicate that selection could be improved by concentrating on reading and ignoring visual-motor integration, if reading is to be maintained as the primary criterion variable.

Tutors and teachers both believed that Upswing tutoring was especially beneficial to children's self-esteem. Moreover, change in self-esteem was one of the two variables most strongly associated with increase in reading test score. (The other variable was related to the confidence of the tutor.) There was no objective measure of self-esteem in the first year of Upswing, and it was not possible to make comparable observations of that characteristic in control group children.



*Testing continued through January in some cities; thus the mean starting point of both groups is inflated to the extent that classroom instruction and tutoring (for the experimental children) increased the scores of the children children who were tested late.

FIGURE 1. RATE OF PROGRESS IN READING AS MEASURED BY WRAT: TUTORED VERSUS CONTROL CHILDREN

Change in children's self-esteem presented itself as an intriguing area for further study; it appeared to be quite important, but the data available were limited.

DESCRIPTION OF CHILDREN INVOLVED IN THE UPSWING FOLLOW-UP

Each project located all children from the first year of Upswing who remained in a local school system, for follow-up after a year without Upswing. There were, for all projects combined, 242 children involved in the follow-up: 123 former tutored children and 119 former control children. Those numbers represent about half of the tutored group who still were in Upswing by the end of the first year and about three-quarters of the control group. Table 4 gives a breakdown by city and child status vis-a-vis an Upswing tutor.

The mix of boys and girls was essentially the same in the three comparison groups. The children in the three groups also were similar in age distribution. Tables 5 and 6 present the data on sex and age, respectively. These variables were checked to ensure that their influence did not obscure any effects of Upswing tutoring. Not only were the comparison groups similar enough in sex and age composition to preclude that possibility, neither sex nor age differences were found to be associated with differences in the criterion areas. There was only one minor exception to this finding--girls tended to make slightly greater gains in reading test score over the follow-up year, as is documented in the discussion of reading outcomes.

FOLLOW-UP OBJECTIVES

The follow-up was conducted to find out whether:

1. Tutored children would maintain their reading achievement edge over a year without Upswing tutoring.
2. Children tutored in Upswing would indicate a different level of self-esteem than control group children on an objective test.
3. Tutoring had an effect on the classroom assignments of children for their second year in school.

TABLE 4

CHILDREN INVOLVED IN THE UPSWING FOLLOW-UP
(Percentages of first-year groups)

Status Group	City				Total
	Denver	Oxford	St. Louis	San Francisco	
Children who had trained tutors (T)					
• At end of first year	38	31	40	21	130
• Follow-up	22(58%)	19(61%)	18(45%)	12(57%)	71(55%)
Children who had untrained tutors (U)					
• At end of first year	30	46	25	12	113
• Follow-up	14(47%)	18(39%)	14(49%)	6(50%)	52(46%)
T + U					
• At end of first year	68	77	65	33	243
• Follow-up	36(53%)	37(48%)	32(49%)	18(55%)	123(51%)
Untutored children					
• At end of first year	38	46	48	31	163
• Follow-up	22(58%)	28(67%)	38(79%)	31(100%)	119(73%)

TABLE 5

SEX OF CHILDREN INVOLVED IN UPSWING FOLLOW-UP

Status in Project Upswing	Male	Female	Total
Tutored by trained volunteer	39/55%	32/45%	71/100%
Tutored by untrained volunteer	29/56%	23/44%	52/100%
Control group	67/56%	52/44%	110/100%
Total	135/56%	107/44%	242/100%

TABLE 6

AGES OF CHILDREN INVOLVED IN UPSWING FOLLOW-UP, AT END OF FOLLOW-UP YEAR

(Percentages based on number of children in each status group
whose ages were reported.)

Status in Project Upswing	Age Category				Total*
	7 yr, 1 mo to 7 yr, 6 mo	7 yr, 7 mo to 8 yr	8 yr, 1 mo thru 8 yr, 6 mo	Greater than 8 yr, 6 mo	
Tutored by trained volunteer (T)	23/34%	29/43%	13/19%	2/3%	67/99%**
Tutored by untrained volunteer (U)	14/28%	29/58%	7/14%	0	50/100%
Control group (C)	46/40%	50/44%	19/16%	0	115/100%
Total	83/36%	108/47%	39/17%	2/1%	232/101%**

* Nonresponse cases omitted. Actual numbers of children were: 71T, 52U, 119C; grand total, 242.

** Rounding error.

4. Tutoring had an effect on children's later needs for special educational services such as remedial reading.
5. Tutoring had an effect on children's class academic standing in their second year in school.
6. Tutoring had an effect on children's classroom behavior.
7. Tutoring had an effect on children's self-confidence demonstrated in school in the second year.
8. Tutoring had an effect on children's adjustment to school as demonstrated by rate of absenteeism in the second year.

FOLLOW-UP PROCEDURES AND DATA SOURCES

The children who could be located were administered two individual tests: the WRAT reading subtest and the "Funny Faces" measure of self-esteem. The children's WRAT scores from the end of the first year (May 1972) were taken as the baseline measure of reading skill. There was no baseline for self-esteem. All children were follow-up tested at the end of April or in May 1973. The examiners were project staff, all of whom had training and experience in individualized test administration.

The children's teachers in the current school year were asked to give information about the children relative to the last six follow-up objectives listed above. The teacher's observations were recorded on a form, "Follow-Up on Children Tutored in the First Year of Upswing" (copy in Appendix B). The form either was completed by the teacher as a questionnaire or completed by a project staff member in a personal interview with the teacher.

STATISTICAL HYPOTHESES[1]

In general, the follow-up analysis looked for differences in distributions of results for former tutored children and former control children in the eight criterion areas listed previously. The hypotheses were:

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[1] All hypotheses except the last are stated positively because the null form may be confusing to some readers.

1. That children who received Upswing tutoring would make higher reading test scores than the control group after a year without Upswing tutoring, with a difference in group means significant at the 0.05 level or better and a variance ratio significant at the 0.05 level.
2. That tutored children would score higher than control children on the test of self-esteem, with difference between means and variance ratio both significant at the 0.05 level.
3. That there would be a positive relationship between the follow-up reading and self-esteem test scores with a correlation coefficient of 0.30 or higher.
4. That there would be a positive relationship between change in reading test score and the follow-up self-esteem test score, with a correlation coefficient of 0.30 or higher.
5. That, for all teacher-measured variables, the distributions of responses would differ for tutored and control group children with a significant variance ratio ($\alpha = 0.05$).
6. That there would be no statistically significant difference ($\alpha = 0.05$) in any of the follow-up criterion areas between children who had been tutored by trained Upswing volunteers and those who had been tutored by untrained Upswing volunteers.

FOLLOW-UP RESULTS

In this description of results, the reading and self-esteem criteria are treated first, separately. Then the second-year teachers' observations about the children are presented. The interactions among follow-up variables are discussed next, and conclusions are drawn about the follow-up results.

Comparison of Reading Levels of Tutored and Untutored Children After A Year

Figure 2 shows that the tutored and control children who could be followed held their own during their second year in school. The pre and post means placed tutored and untutored alike at the low end of the average range on the WRAT (90-109 standard score points). There was about a two-point decline in standard score for the tutored group, but this is not significant in relation to the standard error of the WRAT.

The standard deviations of the two groups also point up their similarity in both initial and final reading test score distributions:

	Tutored	Untutored
Pretest	9.90	9.19
Post-test	10.29	10.48

The standard deviations are consistently lower than the 15 points found in the normative population. This indicates that, as expected, the Upswing groups were more homogeneous than a normal population. The increase in standard deviation on the follow-up final test also was to be expected since environmental differences such as schooling, experiences, or maturation, cause greater variance in children's reading skills over time. A larger increase in standard deviation would be expected for a normal sample.

It should be noted that the data in Figure 2 exclude the reading post-test scores of 26 children because there was no baseline measure for them; these children were not tested at the end of the year of Upswing tutoring. Their "post" scores were checked to get at least a partial view of the nature of bias that might have been introduced by their omission from the sample. The 26 children included 16 who were tutored (10 by trained volunteers, 6 by untrained, and 10 from the control group. The status group means for the 26 were higher than the means for the groups with complete data; however, there was a great deal of variance in the excluded scores. The 10 children from the Upswing control group had a higher mean reading post-test score than the 16 who received Upswing tutoring, consistent with the trend for the larger follow-up groups.

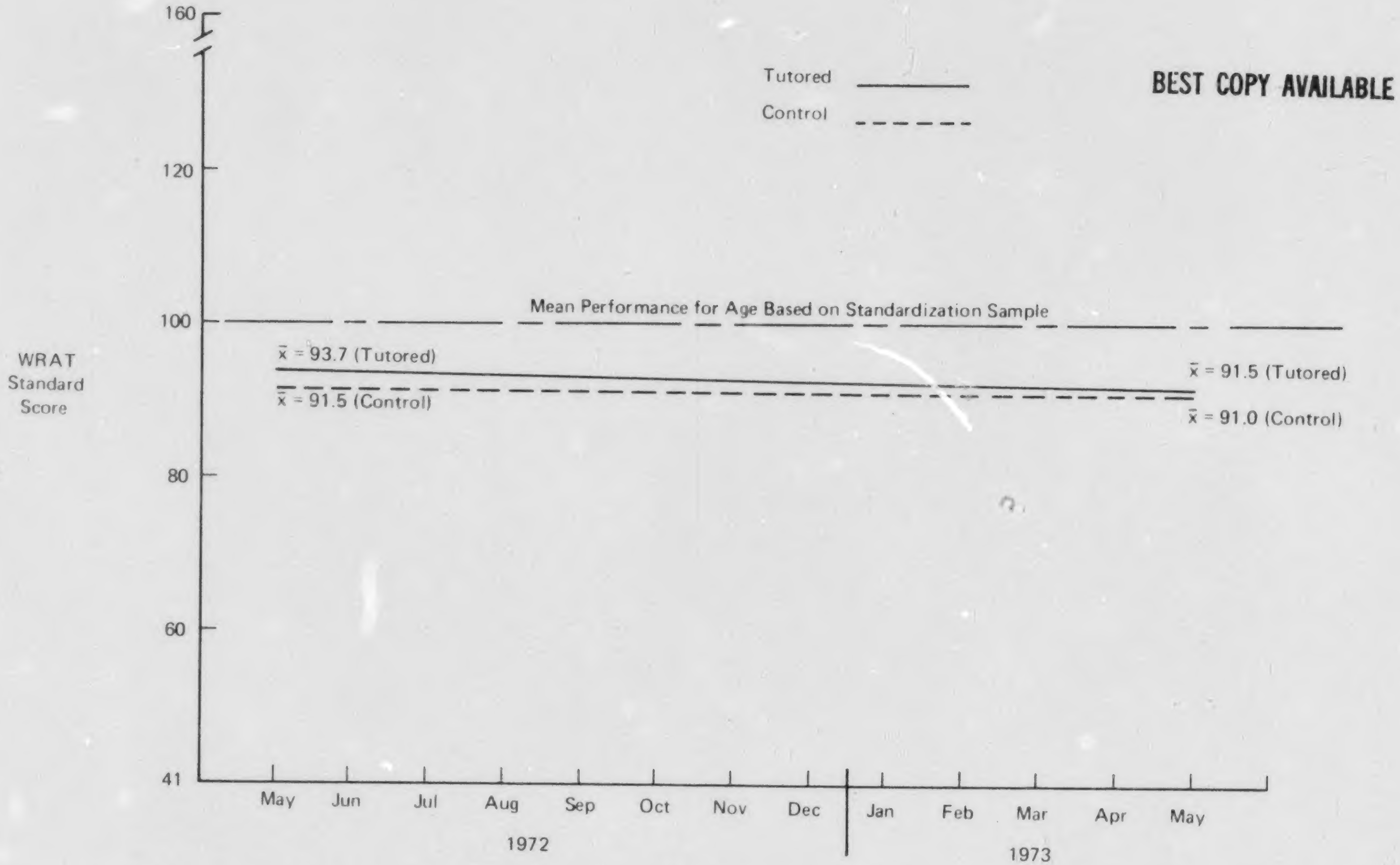

FIGURE 2. READING PERFORMANCE AFTER A YEAR WITHOUT TUTORING, AS MEASURED BY THE WRAT: FORMER TUTORED CHILDREN VERSUS FORMER CONTROL CHILDREN

Rate of Progress in Reading in the Follow-Up Year. Both the tutored and control groups increased their *rate* of progress in reading during the first year of Upswing tutoring as shown by the rising slope of the lines in Figure 1. The increase in rate was significantly greater for tutored children. In the follow-up year, there was no difference in the rates of progress of the two groups. In fact neither increased its rate of progress at all. Both simply held their own at the pretest level. Since the WRAT is age-adjusted, an increased *rate* of progress is indicated by a gain in standard score. If a child's standard score remains the same from test to test over time, he is progressing at a uniform rate. The "average" child would be expected to obtain a standard score of 100 each time he is tested regardless of elapsed time or grade level.

The standard deviations of change scores for the two groups showed that some children were increasing somewhat in rate of progress, while others were retrogressing. Those values were almost identical: 7.16 for tutored children and 7.45 for untutored children. This result is another indication of the close similarity of the tutored and untutored groups' reading skills. In relation to the mean change for the groups (-2.3 points for tutored children and -0.5 points for untutored children), the standard deviations represent some spread. In relation to the range of possible change, however, the standard deviations are quite small, indicating that nothing spectacular happened to the reading skills in any part of either group. The change that occurred was negatively correlated with pretest score ($r = -0.3$, statistically significant at the 0.001 level). That is, children who started with lower test scores tended to show greater score gains on the final test.

Differences in Children's Reading Levels From City to City. Knowledge of the city in which a child lives is, in the case of the Upswing follow-up, a better indicator of his WRAT score than knowledge of his status vis-a-vis an Upswing tutor. Table 7 shows, for example, that San Francisco children averaged roughly 10 points lower in pretest score than Denver children or St. Louis tutored children. These differences in starting score influenced differences in change score. The influence of initial score--the covariate--was previously pointed out: children who started lower tended to make

TABLE 7 **BEST COPY AVAILABLE**

PRETEST WRAT SCORE AND CHANGE IN SCORE OVER THE FOLLOW-UP YEAR BY CITY AND STATUS

(1) Status Group, by City	(2) Mean Pretest Standard Score	(3) Mean Point Change in Standard Score Pre to Post (a) Unadjusted	(b) Adjusted
Denver:			
• Children who had trained tutors (T)	96.6	-2.2	-1.2
• Children who had untrained tutors (U)	95.9	-4.2	-3.7
• Control group (C)	97.0	-0.2	-1.5
Oxford:			
• T	91.9	-2.1	-2.2
• U	92.1	-3.6	-3.7
• C	92.7	-2.3	-2.3
St. Louis:			
• T	97.3	-4.1	-3.4
• U	97.4	-1.6	-0.9
• C	90.0	-1.5	-1.9
San Francisco			
• T	86.4	+3.0	+2.0
• U	86.3	+0.2	-0.8
• C	88.3	+3.9	+3.2

greater gains. As Table 7 indicates (column 3a), San Francisco children were the only children, regardless of status group, whose mean change in WRAT score was in a positive direction. Their relatively lower pretest scores account for part of this difference. The effect of adjusting for the covariate (column 3b) is to decrease the amount of positive gain indicated, giving a clearer picture of the influence of "city." Column 3 of the table also shows that when amount of change is adjusted for pretest, the relative positions of the other city/status groups, in terms of how much their mean scores decreased, also changes. In a sense one can say that those who started higher had more to lose, so that adjustments for starting level reduces their amount of loss relative to those who started lower.

The foregoing rather complicated exegesis may be interpreted in essence as follows: **It appears that city possibly had some influence on what happened to children's reading skills in the follow-up year.** This influence is attributable to a combination of child characteristics, including pretest level of skill, and environmental characteristics that the Upswing evaluation cannot define. When we controlled for the impact of child's starting level, the influence of city on *change* in reading level over the year became miniscule. This is attested to by the fact that, on the final follow-up test there was no significant difference between the means of any two city/status groups or between the means by city for all children combined.

Differences in Reading Level Between Boys and Girls. Girls typically have been found to progress faster in the early years of school, and there was some tendency for girls involved in Upswing to reflect this early advantage. Overall (without regard for status group) the pretest means for boys and girls were almost identical. However, girls tended to gain more or lose less in standard score than boys over the follow-up year. The margin was quite narrow; sex accounted for only about 2% of the variation in change in reading score. Still the difference was enough to produce a significant F-ratio for the boys versus girls. Upswing status continued to have no apparent bearing on reading. Girls, regardless of whether they were tutored by trained volunteers, untrained volunteers, or were not tutored, tended to increase their final test scores or to lose fewer points on the final test. Figure 3 compares the distributions of change in reading test score for boys and girls. Again, it should be remembered that no change means no change in *rate* of progress; it does not indicate lack of development of reading skills.

The preceding Table 6 (under "Description of the Children ...") shows that, for all cities combined, the ratio of boys to girls was almost identical in the tutored and untutored groups. There were imbalances in Denver and San Francisco, but the data indicate that they do not affect the essential point; namely, that although sex of child appears to have had a very minor influence on follow-up results, the sex variable did *not* override the status variable to obscure any influences of tutoring.

Comparison of Follow-Up Groups on Self-Esteem Test Results

There were no differences between any two of the follow-up groups of children in measured level of self-esteem at the end of their second year in school (Figure 4). The means for the three groups fell toward the low end of the average range. Although the standard deviations were fairly large in relation to the range of actual test scores, +1 standard deviation places the children within the borderline to average range of the test. (Score categories were established in a pretest involving all first-graders in an elementary school--59 children--as the normative sample.) A total of 13 Upswing children did not take the self-esteem test: one from the group tutored by trained Upswing volunteers, seven from the group tutored by untrained volunteers, and five from the control group. It is unlikely that their scores would have changed, appreciably, the results shown in Figure 4.

Differences in Self-Esteem From City to City. The self-esteem scores of the three follow-up groups *within* each city were not so uniform as the WRAT scores. Nevertheless, status still was not a significant variable at the individual city level. There were some comparatively large differences between certain groups from city to city, but the pattern found in the WRAT scores (consistently lower or higher scores in a given

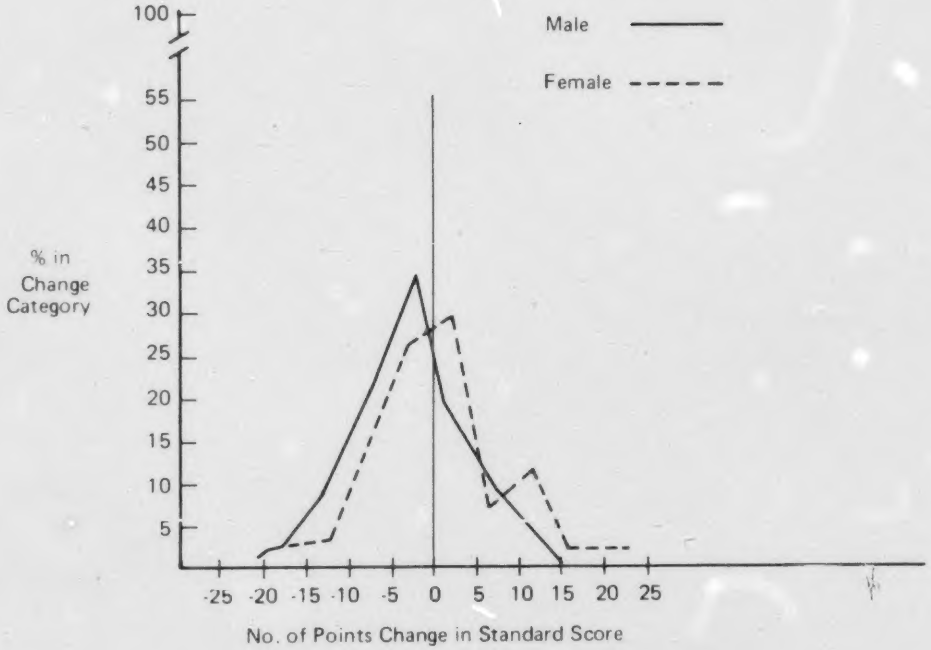

FIGURE 3. MALE-FEMALE COMPARISON OF CHANGE IN WRAT SCORE OVER A YEAR WITHOUT TUTORING
(Percentages plotted at the mean values for the change categories)

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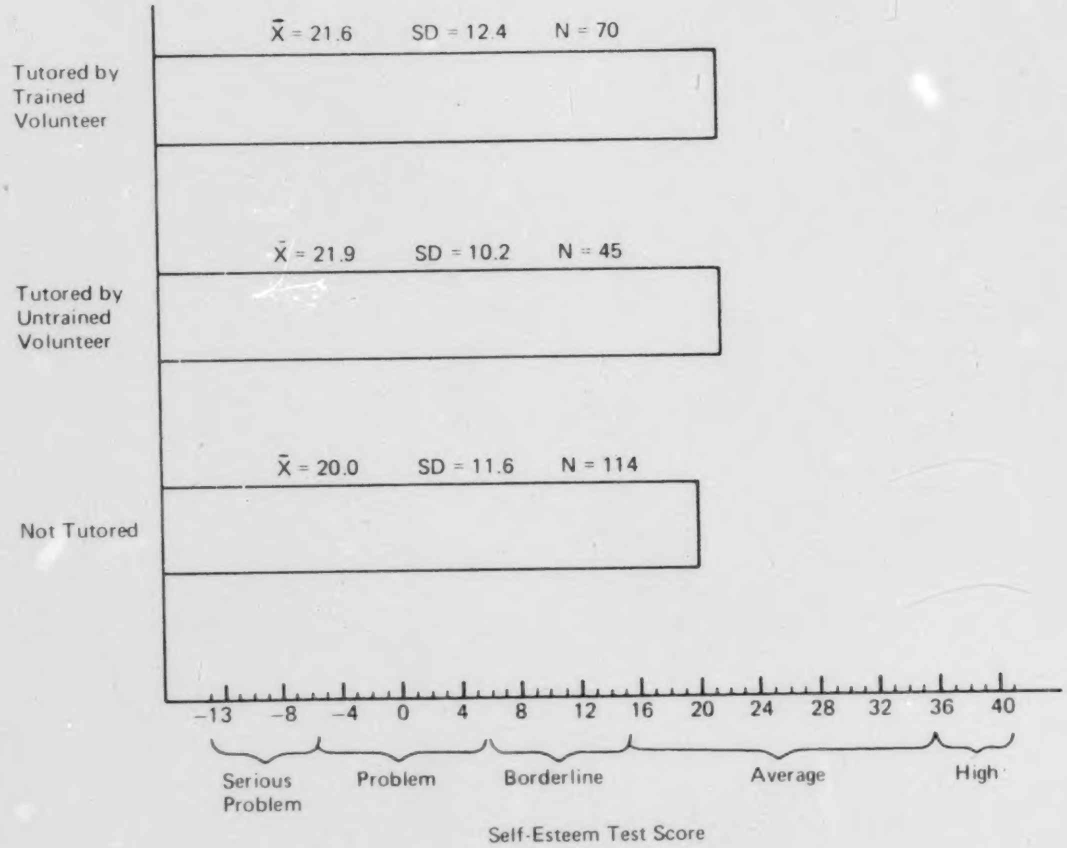

FIGURE 4. COMPARISON OF SELF-ESTEEM TEST RESULTS FOR THE FOLLOW-UP GROUPS (Range of possible test scores = -46 through 41; range of Upswing follow-up scores = -13 through 41. Score categories based on pretest with all first-grade children in a Prince George's County, Maryland public school.)

city) was not evident in the self-esteem scores. The F-ratio indicated that the variance between city/status groups was significant (i.e., that certain groups apparently represented different populations in terms of *distribution* of self-esteem). However, the Student's T-test applied to all possible pairs of city/status groups indicated that all differences between means on the self-esteem test were insignificant.

Comparison of Follow-Up Groups Based on Information From Their Second-Year Teachers

Upswing status made no appreciable difference in any of the child characteristics about which the teachers were queried at the end of the follow-up year.

Type of Class Assignment for the Year After Upswing. It was hypothesized that status in Project Upswing might have some bearing on the type of class assignment children received for their second year in school, since the tutored children tended to gain more in reading and since teachers tended to regard Upswing tutoring as beneficial. This hypothesis assumes, of course, that class assignments are not random but are governed by achievement level, at least in the case of retention. It further assumes that reading proficiency is the achievement indicator given greatest weight, at least in the primary grades.

Table 8 shows that, among the children who could be followed, Upswing tutoring had no important bearing on placement for the next school year. **The table also shows that data on type of class assignment by themselves would suggest that Upswing children on the whole were considered a below-average group.** Placement in a combination first and second grade class made up primarily of children with learning difficulties would seem to be a form of retention; the import of placement in a combination class of average or above-average children is less clear. (Only one child was reported to be in an above-average combination class.) Excluding children in the latter, more ambiguous category from the retention group, the retention rate still is about 30%, which seems quite high. In addition 10% to 15% of all the Upswing children were in second grade classes made up primarily of children with learning difficulties. Only

TABLE 8

TYPE OF CLASS ASSIGNMENT FOR THE SCHOOL YEAR FOLLOWING UPSWING TUTORING, BY STATUS IN UPSWING

(Percentages based on number of children in each status group whose teachers responded to question)

Type of Class Assignment for the Year After Upswing	Upswing Status			Total*
	Tutored by Trained Volunteer	Tutored by Untrained Volunteer	Not Tutored	
Retained in first grade	9/13%	8/16%	18/16%	35/15%
Combination grade 1-2, primarily children with learning difficulties	8/12%	8/16%	17/15%	33/14%
Combination grade 1-2, normally distributed or above-average class	8/12%	6/11%	8/7%	22/10%
Second grade, primarily children with learning difficulties	7/10%	5/10%	19/16%	31/13%
Second grade, normally distributed or above-average class	36/53%	24/47%	53/46%	113/48%
Total	68/100%	51/100%	115/100%	234/100%

* Non-response cases omitted. Actual total numbers of children were: 71 tutored by trained volunteers, 52 tutored by untrained volunteers, 119 from control group; grand total, 242.

about half of all the Upswing groups were clearly promoted to normally-distributed or above-average classes.

Table 9 shows that there were differences in assignment pattern from city to city. This probably reflects to some extent differences in types of classes available and also differences in educational philosophy. The highest percentages of children were retained in Oxford and, more so, in St. Louis. Denver had a considerably higher percentage of normal second-grade placements than any other city.

There were some differences between status groups within cities, but the number of children per group are so small under the three-way classification (city x status x type of assignment) that conclusions about such differences are tenuous. Differences mostly appear to be random, but tend to occur more between groups tutored by trained versus untrained volunteers than between tutored versus untutored children, except in St. Louis. The data suggest a possibility that there may have been greater tendency in St. Louis to retain former control group children in first grade classes, while the alternative for former tutored children was more likely to be a combination first and second grade class normally distributed in achievement level.

Special Services Given in the Follow-Up Year. Eighty-six of the 242 children in the follow-up were reported to have received one or more kinds of special educational service during their second year of school. The most commonly received services were (1) tutoring in a subject other than reading, (2) remedial reading, and (3) tutoring in reading. Eighty percent of the children who received special services had remedial reading or a reading tutor (in addition to other kinds of help in many cases).

It was hypothesized that Upswing tutoring might make special services, at least in reading, unnecessary for many children in their second year of school. However, as the data in Table 10 indicate, Upswing status was not related to receipt of services. T**here was virtually no difference between tutored and untutored children in any category except, possibly, speech therapy**. The difference there occurred because about three times as many children who had worked with trained Upswing tutors received speech therapy in the follow-up year as children who had untrained

TABLE 9

TYPE OF CLASS ASSIGNMENT FOR THE SCHOOL YEAR FOLLOWING UPSWING TUTORING, BY CITY

(Percentaged based on number of children in each city whose teachers reported type of class.)

Type of Class Assignment	Denver	Oxford	St. Louis	San Francisco	Total
Retained in First Grade	7/13%	11/17%	11/16%	6/13%	35/15%
Combination Grade 1-2, Primarily Children with Learning Difficulties	2/4%	6/9%	23/33%	2/4%	33/14%
Combination Grade 1-2, Normally Distributed or Above-Average Class	0	6/9%	10/14%	6/13%	22/10%
Second Grade, Primarily Children with Learning Difficulties	5/9%	7/11%	9/13%	10/22%	31/13%
Second Grade, Normally Distributed or Above-Average Class	40/74%	35/54%	16/23%	22/48%	113/48%
Total*	54/100%	65/100%	69/100%	46/100%	234/100%

*Nonresponse cases omitted. Actual total numbers of children were: Denver, 58; Oxford, 65; St. Louis, 70; San Francisco, 49; grand total, 242.

TABLE 10

SPECIAL SERVICES TO FORMER UPSWING CHILDREN DURING THE FOLLOW-UP YEAR, BY STATUS IN UPSWING

(Percentages based on total number of children in each status group. Column totals omitted because some children received more than one kind of service.)

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Had Special Services?	Upswing Status				Total (N = 242)
	Tutored by Trained Volunteer (N = 71)	Tutored by Untrained Volunteer (N = 52)	All Tutored Children (N = 123)	Not Tutored (N = 119)	
No	43/61%	36/69%	79/64%	77/65%	156/64%
Yes	28/39%	16/31%	44/36%	42/35%	86/36%
If yes:					
Tutor in subject other than reading	14/20%	7/13%	19/15%	22/18%	43/18%
Remedial reading	10/14%	4/8%	14/11%	23/19%	37/15%
Reading tutor	9/13%	6/12%	15/12%	17/14%	32/13%
Speech therapy	13/18%	3/6%	16/13%	6/5%	22/9%
Other	3/4%	2/4%	5/4%	4/3%	9/4%
Part-time in special education class	1/1%	4/8%	5/4%	2/2%	7/3%
Psychological services	2/3%	1/2%	3/2%	2/2%	5/2%

tutors or no tutor. We can only speculate about the reasons for this. It appears that teachers may associate such problems as speech impairment with learning difficulty. It also appears that there was a tendency to assign the children perceived as having the greatest difficulty to the experimental group and, further, to trained tutors since they were regarded as most effective. Since speech impairment is a readily apparent problem, more speech-impaired children may have been perceived as in greater need of strong assistance.

Table 11 shows that there were differences between cities in types of special services offered and numbers of children served. This was to be expected because of differences in school system budgets and the involvement of the communities in providing volunteer aid in the schools. Considerably more special services were provided in Oxford and San Francisco, and the number of children who received tutoring in the latter city may indicate the contribution of the city's school volunteer organization--the San Francisco Education Auxiliary. Considerably fewer special services were provided in St. Louis, perhaps because of limited budget. NOT SO

Generally, about the same percentages of former tutored and untutored children received special services *within* each city. The only noteworthy exception was that in Oxford a considerably larger proportion (58%) of children who had worked with trained Upswing tutors received special services than children who had untrained tutors (33%) or control group children (39%). Data on different types of services partitioned by both status and city are not appropriate for comparison since numbers of children in the comparison groups become so small.

Class Standing. Teachers were asked to evaluate the former Upswing children's class standing at the end of the follow-up year. Figure 5 illustrates that there were virtually no differences on this measure between the Upswing status groups. The figure also shows that children tended to the low side in class standing.

TABLE 11

SPECIAL SERVICES TO FORMER UPSWING CHILDREN DURING THE FOLLOW-UP YEAR, BY CITY

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(Percentages based on total number of children in each city.
Column totals omitted because some children received more than one kind of service.)

Had Special Services?	City				Total (N = 242)
	Denver (N = 58)	Oxford (N = 65)	St. Louis (N = 69)	San Francisco (N = 49)	
No	40/69%	37/57%	53/77%	25/51%	156/64%
Yes	18/31%	28/43%	16/23%	24/49%	86/36%
If yes:					
Tutor in subject other than reading	12/21%	6/9%	5/7%	20/41%	43/18%
Remedial reading	4/7%	17/26%	3/4%	13/27%	37/15%
Reading tutor	8/14%	2/3%	8/12%	14/29%	32/13%
Speech therapy	4/7%	7/11%	4/6%	7/14%	22/9%
Other	3/5%	1/2%	1/1%	4/8%	9/4%
Part-time in special education class	0	2/3%	0	5/10%	7/3%
Psychological services	1/2%	0	0	4/8%	5/2%

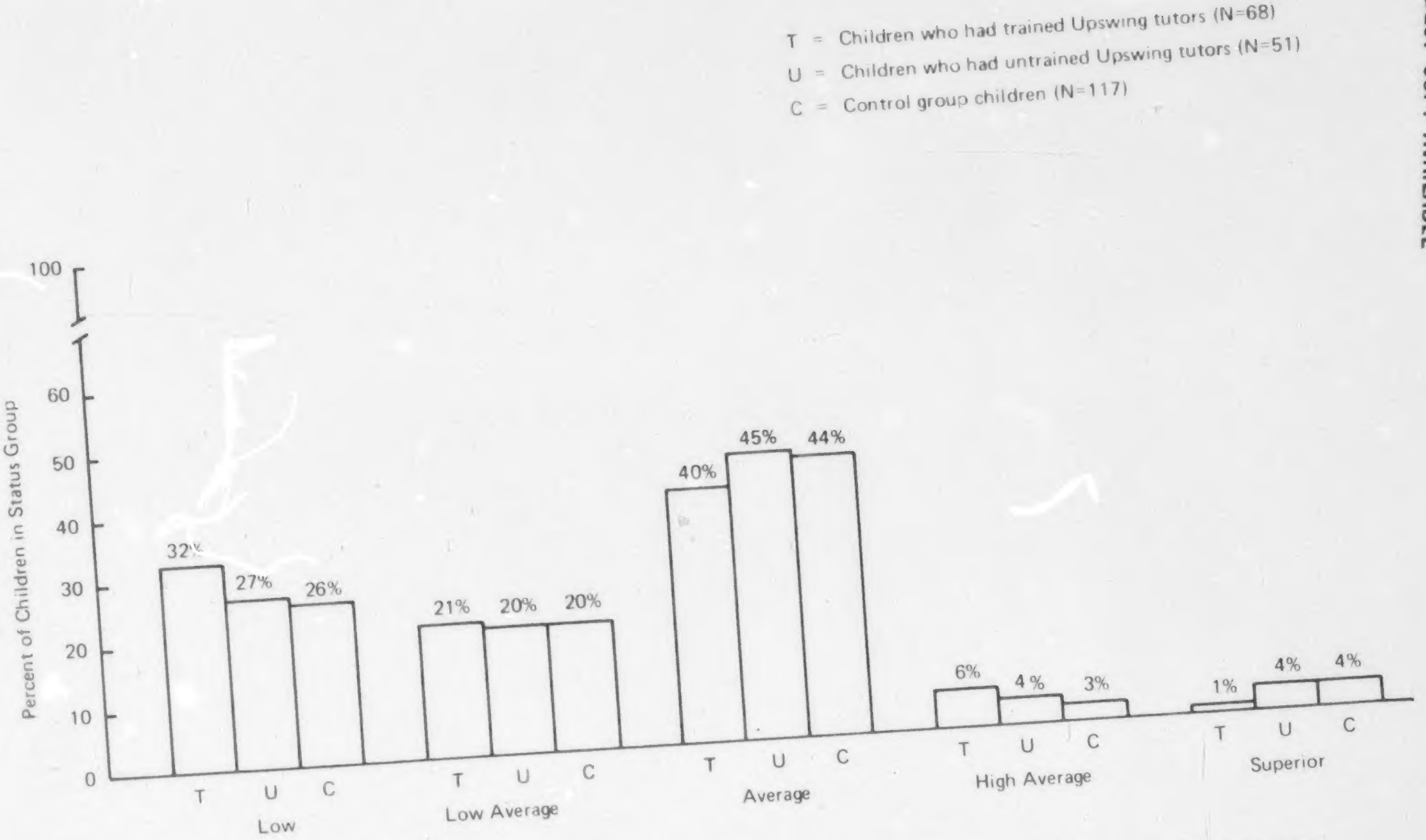

FIGURE 5. CLASS STANDING OF FORMER UPSWING CHILDREN, AS EVALUATED BY THEIR SECOND-YEAR TEACHERS

(Percentages based on total number of children in each group whose teachers responded to the question; no response for three children from the T group, one from the U group, and two from the C group.)

Since there were significant differences in reading post-test score distributions from city to city, the possibility was considered that there might be city differences in teacher evaluation of children's class standing. From Table 12, that did not turn out to be the case. The data suggest a marginal difference between St. Louis and the other cities; however, even though fewer children there fall in the lowest class standing category, the general trend of average or below average standing obtained. There were no significant differences in mean or variance between status group distributions on class standing within city and from city to city. It is possible (even probable), given the known sampling bias, that real Upswing gains have been obfuscated.

Classroom Behavior. Teachers indicated that former Upswing control group children, overall, exhibited slightly more disruptive classroom behavior than either group of tutored children (Figure 6).[2] This result can be traced to the combined effect of differences in two cities. Denver and St. Louis children, especially the former, presented more behavior problems, as shown in Table 13. In both cities, more frequent disruptive behavior was noted among control group children. A counter trend occurred in Oxford; however, it was not strong enough to neutralize or override the effect of the other two cities on project-wide results.

Self-Confidence Demonstrated in School. The self-confidence measure was obtained by asking teachers to rate children on a three-point scale where: 1 = child generally unsure of himself
2 = average
3 = child quite sure of himself.

The children were rated in the following areas:

- Friendship with other children in class
- Participation in group activities
- Approach to schoolwork
- Relationships with teacher
- Relationships with other adults.

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[2] It should be noted that nonresponse to the query about classroom behavior was sufficient to raise a question about the validity of this finding.

TABLE 12

CITY COMPARISON OF FORMER UPSWING CHILDREN'S CLASS STANDING AS EVALUATED BY THEIR SECOND-YEAR TEACHERS

(Percentages based on total number of children in each city whose teachers responded to the question.)

Class Standing	City				Total
	Denver	Oxford	St. Louis	San Francisco	
Low	18/32%	24/38%	9/13%	15/33%	66/28%
Low average	11/19%	11/17%	16/23%	9/20%	47/20%
Average	24/42%	26/41%	35/50%	17/38%	102/43%
High average	3/5%	1/1%	5/7%	4/9%	13/6%
Superior	1/2%	2/3%	5/7%	0	8/3%
Total*	57/100%	64/100%	70/100%	45/100%	236/100%

* Nonresponse cases omitted. Actual total numbers of children were: Denver, 58; Oxford, 65; St. Louis, 70; San Francisco, 49; grand total, 242.

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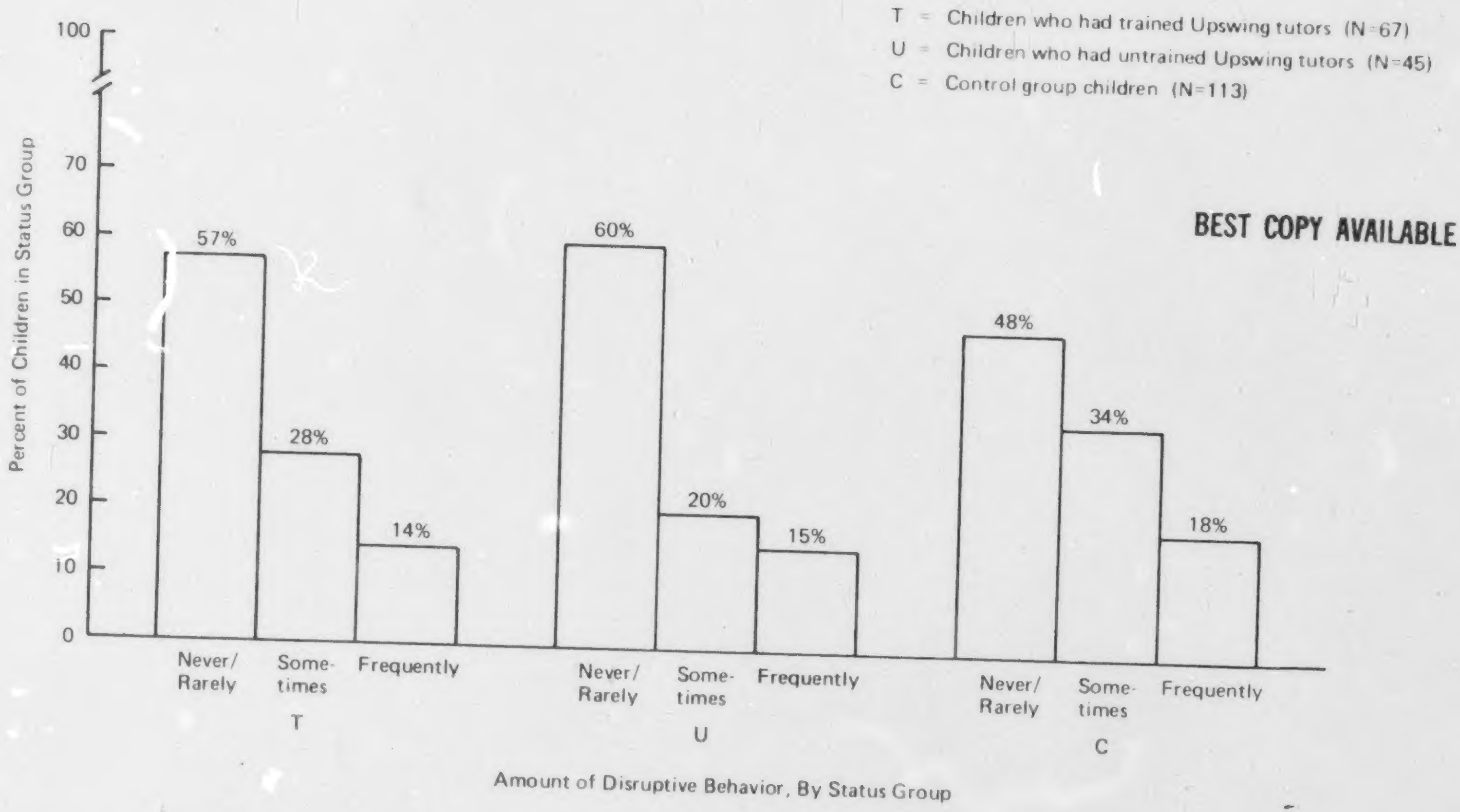

FIGURE 6. CLASSROOM BEHAVIOR OF FORMER UPSWING CHILDREN, AS EVALUATED BY THEIR SECOND-YEAR TEACHERS
(Percentages based on number of children in each status group whose teachers responded to question; no response for 4 children from the T group, 7 from the U group, and 6 from the C group.)

TABLE 13

CITY COMPARISON OF FORMER UPSWING CHILDREN'S CLASSROOM BEHAVIOR, AS EVALUATED BY THEIR SECOND-YEAR TEACHERS

(Percentages based on number of children in each city whose teachers responded to the question.)

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Disruptive Behavior in Class?	City				Total
	Denver	Oxford	St. Louis	San Francisco	
Never/rarely	28/56%	37/61%	29/45%	25/51%	119/53%
Sometimes	10/20%	17/28%	25/38%	15/31%	67/30%
Frequently	12/24%	7/11%	11/17%	9/18%	39/17%
Total*	50/100%	61/100%	65/100%	49/100%	225/100%

* Nonresponse cases omitted. Actual total numbers of children were: Denver, 58; Oxford, 65; St. Louis, 70; San Francisco, 49; grand total, 242.

The individual item scores were tallied and also were summed to yield an overall score.

Figure 7 illustrates that Upswing status had no influence on this measure of children's overall self-confidence that was discernible by their second-year teachers. The results for individual items all were virtually the same as the summed results. The distributions of overall and item self-confidence scores were about the same in each city as the distribution by status for all cities combined (represented in Figure 7).

It is interesting to note that over two-thirds of all groups were considered average, with a significant minority below average. These overall findings agree with the self-esteem test findings, but the two measures do not correlate highly. Clearly we are dealing with two separate constructs of self-esteem. One, the test is a standard set of criteria for all children, and the other, teacher judgment, applies separate criteria to each child according to the teacher and his/her observational relationship to the child. Both measures have their place, but the fairness of a standard set of criteria is perhaps a more useful tool for this evaluation. It also appears, from the statistical associations between the teacher measures of self-confidence, class standing, and classroom behavior that the latter two variables entered into the subjective self-confidence estimate in ways that, on the basis of self-esteem test results, may not have been warranted.

Rate of Absenteeism. The range on number of days absent from school was 0-60, with a total follow-up sample mean of 9.6 and a standard deviation of 9.9. There were modest differences between status groups in rate of absenteeism. Control children were a more heterogeneous group than tutored children in terms of school attendance; the former group included enough children who were absent very frequently to increase their mean number of days absent, particularly over the mean for children who had worked with untrained tutors, as Table 14 shows.

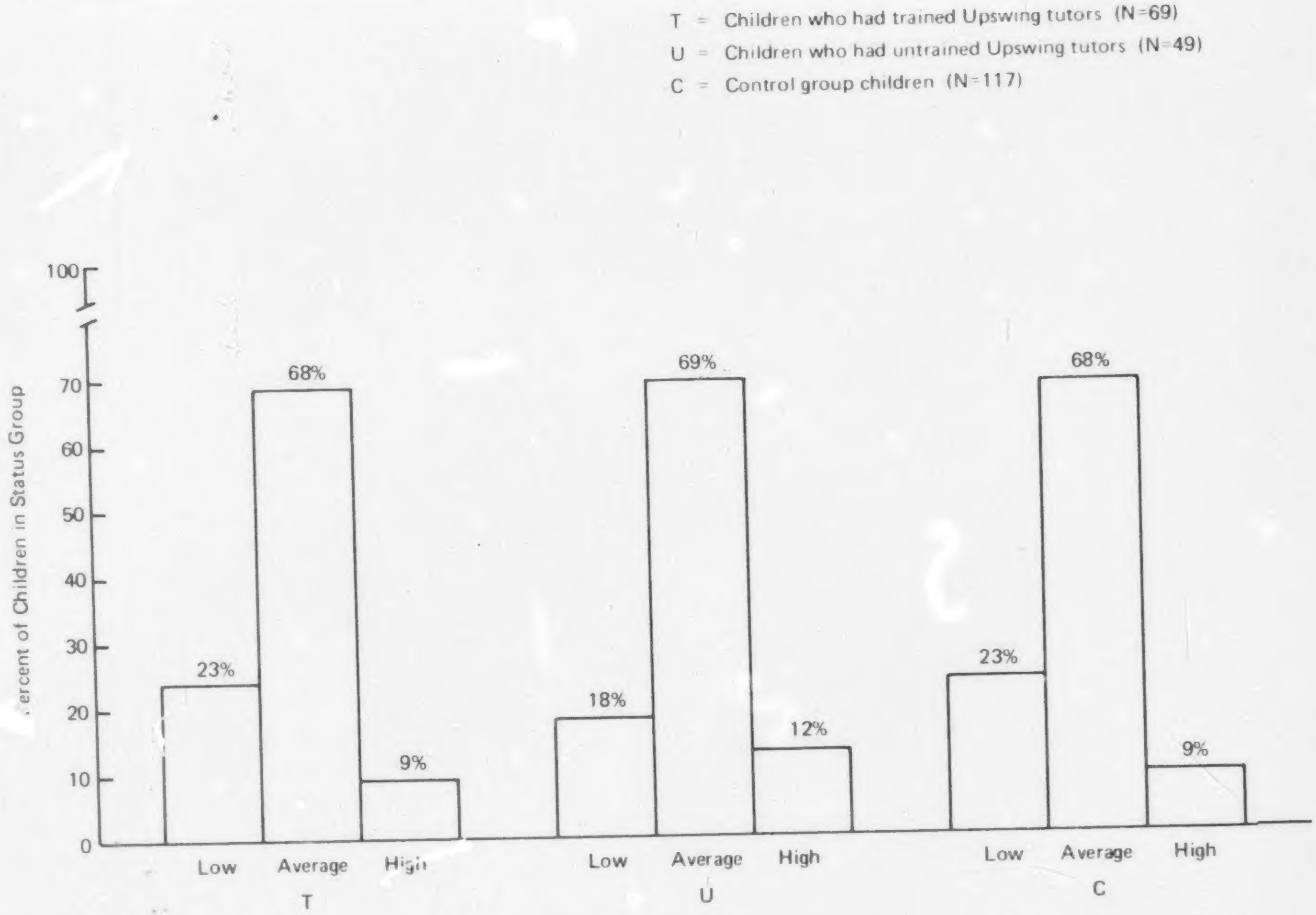

FIGURE 7. FORMER UPSWING CHILDREN'S OVERALL SELF-CONFIDENCE IN SCHOOL, AS EVALUATED BY THEIR SECOND-YEAR TEACHERS
(Percentages based on number of children in each status group whose teachers responded to question. No response for two children from T group, three from U group, and two from C group.)

TABLE 14 **BEST COPY AVAILABLE**

BASIC STATISTICS ON FOLLOW-UP CHILDREN'S RATES OF ABSENTEEISM FROM SCHOOL

(Percentages based on number of children in each status group whose teachers provided attendance data.)

Upswing Status	Number of Children*	Mean Number of Days Absent	Standard Deviation
Children who had trained Upswing tutors (T)	63	8.8	8.0
Children who had untrained Upswing tutors (U)	43	6.9	5.8
Control group children (C)	109	11.2	11.9
Total	215	9.6	9.9

* Nonresponse cases omitted. Actual numbers of children were: 71T, 52U, 119C; grand total, 242.

Absenteeism was higher overall in Denver and San Francisco than in Oxford, particularly, and St. Louis. Table 15 presents the data by city. The rates in the first two cities were inflated by more absences among control group children in Denver, and among children who had worked with trained Upswing tutors as well as the control group in San Francisco.

The data on number of days absent suggest a possibility that Upswing may have influenced school attendance to some modest extent, although characteristics of the city, or of the children in the city, were stronger influences. If Upswing tutoring had an effect, it might be attributable to added enjoyment of school because of the tutoring experience; it might also, or in addition, be attributable to the fact that the schools, volunteers, or both, frequently contacted the parents of tutored children to avoid volunteers making wasted trips to school. Parents of tutored children could have been made more conscious of school attendance because of the involvement with Upswing.

Relationships Between Follow-Up Variables

Indirect Effects of Upswing Status. The only areas in which Upswing status appeared to have any influence in the follow-up year were classroom behavior and absenteeism. Control group children demonstrated slightly more disruptive behavior and tended to be absent from school more frequently than tutored children. However, the differences between the groups in these respects were marginal.

Reading and the Other Measures. Reading proficiency (as measured by the WRAT) and tested level of self-esteem appeared to be unrelated, as did reading proficiency and the teachers' estimates of children's self-confidence in school. Thus the hypothesized relationship between positive self-concept and reading skill must be rejected for the Upswing follow-up population.

In assessing children's class standing, teachers apparently took into account some elements measured by the WRAT, for there was a significant positive correlation between the two (r = 0.4). The WRAT results were not related to any other variable under study except the child's class assignment and whether the child received special services. The associations

TABLE 15

CITY COMPARISON OF FOLLOW-UP CHILDREN'S RATE OF ABSENTEEISM FROM SCHOOL

(Percentages based on number of children in each city whose teachers provided attendance data.)

City	Number of Children*	Mean Number of Days Absent	Standard Deviation
Denver	45	11.8	9.5
Oxford	63	6.8	7.7
St. Louis	59	8.8	9.7
San Francisco	48	12.4	12.2
Total	215	9.6	9.9

* Nonresponse cases omitted. Actual total numbers of children were: Denver, 58; Oxford, 65; St. Louis, 70; San Francisco, 49; grand total, 242.

found with these variables were contrary to what one would presume to be expected.

The decision to retain or to place a child in a learning difficulties class apparently was not based generally on deficiency in reading skill, or else the measure of reading skill used did not accord with the WRAT results. Table 16 shows that children who were retained tended to have slightly lower WRAT scores than children who were not, but the means for all groups fell at the low end of the average range, with small standard deviations. No significant difference was found in mean or variance of pretest reading scores between groups formed on type of class assignment.

Table 16 also gives the reading post-test basic statistics for the type-of-class groups. None of these group means went up significantly; however, the mean for the group retained in first grade dropped significantly, indicating that these children lost ground in reading.

Eighty percent of the 86 children who received special services had remedial reading or a reading tutor (in addition to other kinds of help in many cases). **The pretest WRAT scores of the 86 children tended to be lower than the pretest scores of those who did not receive any special services. Differences in pretest mean and variance for the two groups were significant. Those differences were maintained on the reading post-test, which indicates that extra help in reading in the second year of school generally did *not* result in improved skills.** Figure 8 shows the pretest and final score distributions for the children grouped on receipt of special services.

Type of Class Assignment and Special Services. The percentage of children who were *not* retained and who received special educational services was twice as high as the percentage of retained children who received special services. There was no particular difference between the other class assignment groups in frequency of special services. Table 17 presents these data.

Type of Class Assignment and Other Measures. Type of class assignment had no bearing on tested self-esteem, self-confidence demonstrated in school, classroom behavior, or teacher-assessed class standing.

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TABLE 16

READING TEST RESULTS FOR UPSWING FOLLOW-UP CHILDREN GROUPED BY TYPE OF CLASS ASSIGNMENT

Type of Assignment	No. of Children, % of Total Population[1]	Reading Pretest	Reading Post-Test
First grade	35 17%	$\bar{X} = 90.5$ SD = 9.3	$\bar{X} = 84.3$ SD = 7.4
Combination 1-2, primarily children with learning problems	24 12%	$\bar{X} = 89.5$ SD = 7.6	$\bar{X} = 88.5$ SD 8.3
Combination 1-2, normally-distributed or above-average class	21 10%	$\bar{X} = 93.8$ SD = 8.8	$\bar{X} = 91.5$ SD = 11.3
Second grade, primarily children with learning problems	24 12%	$\bar{X} = 93.2$ SD = 11.1	$\bar{X} = 93.6$[2] SD = 12.0
Second grade, normally-distributed or above-average class	98 47%	$\bar{X} = 93.7$ SD = 10.5	$\bar{X} = 94.5$[3] SD = 10.5

[1] Percentages based on 208, the total number of children for whom we had both WRAT scores and a response from the teacher on type of class. The total follow-up population included 242 children; there was no pretest WRAT score for 26 children and no grade report for 8 children. Percentages do not sum to 100% because of rounding errors.

[2] One child excluded because of out-of-range post-test score.

[3] Two children excluded because of out-of-range post-test scores.

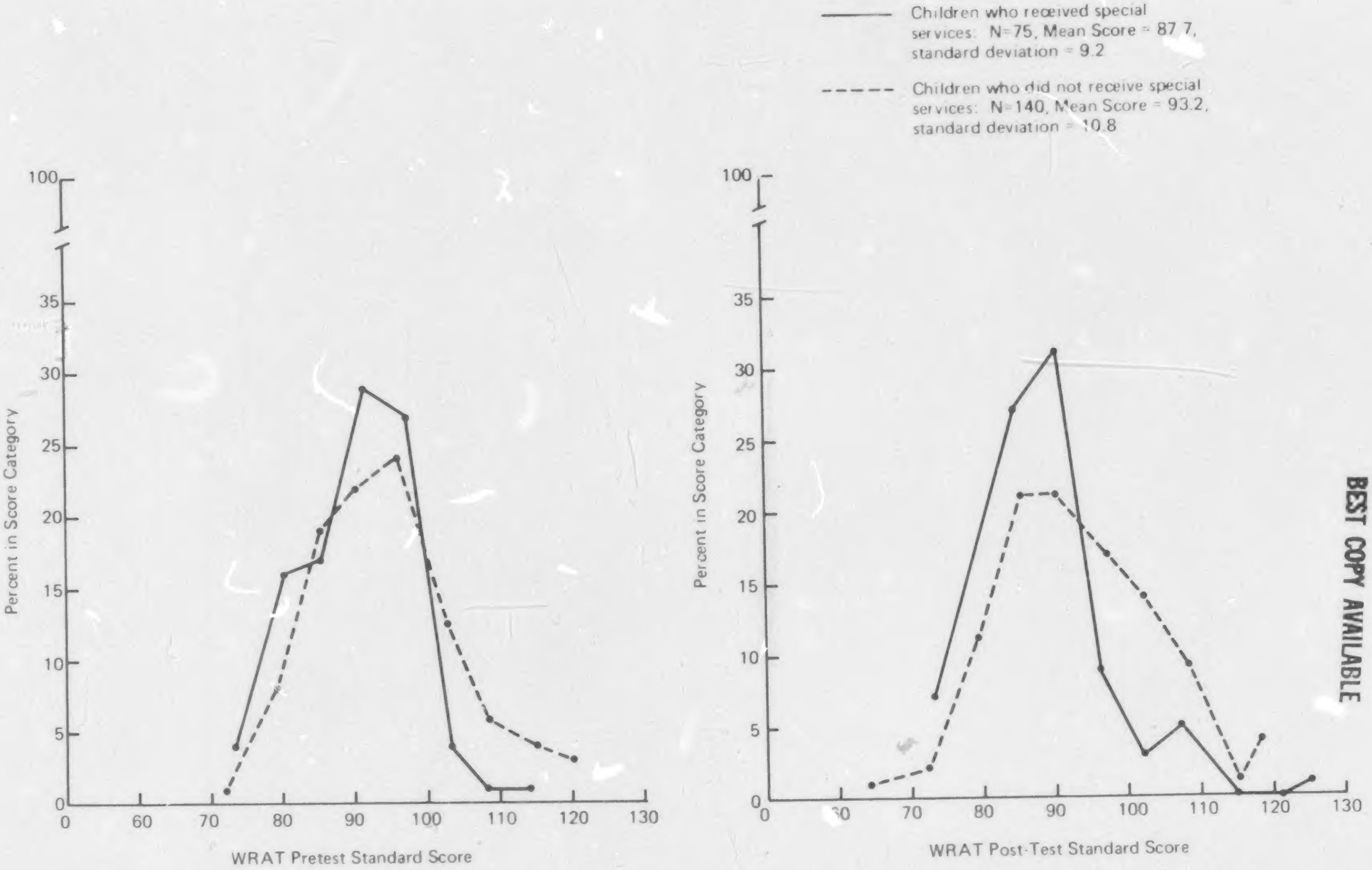

FIGURE 8. COMPARISON OF PRE- AND POST-TEST READING SCORE DISTRIBUTIONS OF CHILDREN WHO DID AND DID NOT RECEIVE SPECIAL EDUCATIONAL SERVICES IN THE FOLLOW-UP YEAR

(Includes only children who took both tests. Percentages plotted on means for score categories.)

TABLE 17

SPECIAL SERVICES TO CHILDREN IN DIFFERENT TYPES OF CLASSES

(Percentages based on number of children in each type of class whose teachers answered the question about special services.)

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Received Special Services?	Type of Class Assignment in Follow-Up Year					Total*
	Retained in First Grade	Combination 1-2, Primarily Children with Learning Difficulties	Combination 1-2, Normally-Distributed or Above-Average Class	Second Grade, Primarily Children with Learning Difficulties	Second Grade, Normally-Distributed or Above-Average Class	
No	27/18%	19/13%	15/10%	21/14%	68/45%	150/100%
Yes	7/8%	14/17%	7/8%	10/12%	45/54%	83/100%
Total	34/15%	33/14%	22/9%	31/13%	113/48%	233/100%

* Nonresponse cases omitted. Actual number of children reported to have received special services was 86; number reported to have received no special services was 156; grand total = 242.

Receipt of Special Services and Other Variables. **Children who received special services were on the low side in all follow-up measures except tested level of self-esteem and degree of disruptive classroom behavior.** They obtained lower final WRAT scores, and lower class standing and self-confidence ratings from their teachers.

LIMITATION OF THE FOLLOW-UP ANALYSIS

This analysis is seriously hindered by a nonrandom attrition of children in the tutored and untutored groups. Unfortunately it was not possible to track children who left the school systems that hosted Upswing.

Many children moved away, and an analysis of test scores indicates that the follow-up population is not truly representative of the original groups of tutored and control children. This is particularly true of the tutored group, which went down by half. Moreover, the fact that, overall, **two times as many tutored children as controls moved away indicates that there were important demographic differences between the two groups** not detected in the first-year evaluation. These differences might be in the itinerant nature of family life, etc. The manifest effect was a differential attrition rate. It also is puzzling why, counter to the overall trend, *all* of the control children in one city (San Francisco) remained while only about half of the tutored children in that city remained. There was no way to determine the impact of differential losses from the comparison groups. Thus it should be kept in mind that the follow-up results might be quite different had it been possible to track all children from the first year.

The impact of this attrition can be partially assessed through a comparison of the mean reading scores for the total population (all children completing Upswing's first year) and the post-attrition subsample. This comparison indicates that the attrition was concentrated among the low scorers for the control group and the high scorers for the experimental (tutored) group. The net effect is to eliminate most differences.

The self-esteem test was included in the follow-up on the assumption that initial level of self-esteem would be a randomly distributed variable in both groups, since the groups were supposed to be randomly drawn from a single population. The hypothesis was that if the two groups were comparable in self-esteem before Upswing, then differences after Upswing might be attributable to tutoring if it appeared that no unusual influences occurred in one or both groups during the second year. Post-test differences between the two groups did not occur. Differences attributable to tutoring could have been wiped out because of attrition, as in the case of reading. However, since reading skills and self-esteem appeared to develop independently of each other in the Upswing population, there is no reason to assume attrition affected results in the two criterion areas in the same way. All that can be said is that both groups of children tended to be on the low side of average in test-observed self-esteem a year after Upswing. It remains unknown whether the project in its first year had any impact in this area and whether any greater benefits to tutored children endured.

CONCLUSIONS ABOUT THE EFFECTS OF TUTORING OVER TIME

It is difficult to make definitive statements about the durability of tutoring benefits because of the follow-up limitations just described. However, the analysis suggests the following about carryover effects:

- The children who could be followed generally maintained their pretest levels of reading skill over the follow-up year (except for those retained in first grade). If one can assume that the attritees from the follow-up population would have done likewise, the tutored group would have maintained its edge; i.e., the positive effect of Upswing tutoring on reading would have been stable over the next year.
- There was no significant difference between the tutored and untutored groups in level of

self-esteem. Moreover, the data give no reason to believe that there were differences between the two groups in this characteristic at the end of the tutoring period. Had there been a positive correlation between post-test reading score and self-esteem it might have been justifiable to speculate about differences between status groups being obliterated by attrition. However, neither the objective test of self-esteem nor the teacher assessment of self-confidence demonstrated in school showed any association with reading level in the follow-up sample.

- The only areas of actual differences between the follow-up sample groups were classroom behavior and absences from school. The differences were quite small--but control group children more commonly presented behavior problems in class and were more frequently absent from school.

The follow-up analysis yielded several interesting findings that were outside the realm of the Upswing evaluation but nevertheless should be noted. One of these is the lack of effect, possibly negative effect of special educational services. The data here are somewhat ambiguous because the evaluation looked for effect on reading only and some children received special services in other areas. However, 80% of those who received any special service received either remedial reading or tutoring in reading (in addition to other kinds of help in many cases). The post-test reading score of children who received special services showed no improvement over their pretest scores. They remained at a level significantly lower than children who did not receive special services. This brings up the possibility that Project Upswing might be more beneficial to children with reading difficulties than the traditional remedial reading approach or than other tutoring efforts.

The negative effect potential is suggested by the fact that teachers evaluated children who received special services as lower in class standing and in self-confidence. There were significant differences in both mean and variance of these teacher ratings between the group of children who did and those who did not receive special services. This may suggest stereotyping.

Another issue that seems worthy of further exploration was raised by the follow-up analysis--namely, the basis for decisions to retain children or to place them in learning-difficulty classes. It seems unlikely that such decisions are made randomly, yet, for the Upswing follow-up sample, they did not appear to have been based upon reading skill. Here, too, the data are not free from ambiguity. Certainly reading skill would not be the only factor considered in making class assignments. However, it would seem that in the primary grades reading should be an important factor, perhaps the most important except for severe social immaturity.

There was no significant difference between the reading pretest scores of children who were retained or were in "slow" classes and children who advanced normally for their years in school. One might question the validity of the WRAT, which was used to measure reading in the Upswing evaluation. Although the WRAT may not be the last word in reading tests, it was carefully developed and standardized; moreover, it is a very straightforward measure of ability to decode. There would not seem to be much room for argument about WRAT results; either a child can decode or he cannot (except of course for contingencies like illness, examiner-introduced bias, etc.). Thus we found it surprising, in view of the predominance of "average" readers in the follow-up sample, that such high percentages were retained or were in classes made up primarily of children with learning difficulties. We found it even more surprising, even distressing, that the retained children, at least, did *not* demonstrate significantly lower reading skill than the others.

Since the retained children apparently started out on an equal footing with the others in basic reading skill, it was especially distressing to observe that those who were retained showed significant loss of skill by the end of the follow-up year. This loss was real in an absolute as well as a relative sense. The mean WRAT standard score of retained children dropped six points, with an even smaller standard deviation than for the pretest.

The foregoing tangential findings certainly seem worthy of serious consideration by the school systems involved in Upswing and by the educators in general. Existing data on the value of special services and on the reasons for and effects of retention certainly should be studied and perhaps further research would be in order.

DESCRIPTION OF CHILDREN INVOLVED IN PROJECT UPSWING'S SECOND YEAR

There were 365 children who participated in the second year of Upswing--181 who had tutors and 184 who did not. The numbers of the two Upswing status groups (tutored/control) were virtually the same in all cities--47 to 51 children in each group--except San Francisco, where there were 35 children in each group. The groups were reasonably well matched in each city (except for parameters later noted). The term "city" has been used to partition the total sample for "by-city" comparisons to assess the effect of gross environment on Upswing results.

Sex

Sixty percent of the Upswing children were boys (219) and 40% girls (146). The status groups showed about the same ratio of girls to boys as the total population. There were some differences in mix of the status groups within cities. For example, in the Oxford tutored group and the St. Louis control group, the split was about 50/50, while in the Denver and St. Louis tutored groups, there were about 70% boys to 30% girls. However, since sex of child had virtually no influence on the criterion measures, these differences are not considered important.

Age

Most of the children were between six and seven years old. There was a moderate tendency for control group children to be a little younger as shown in Table 18. This difference was not important in the analysis because the reading test results were converted to age-adjusted standard scores, and age within the narrow range of the Upswing children was found to be unrelated to the other criterion measures.

Kindergarten Experience

Table 19 shows that about **70% of the children for whom data were available attended kindergarten**. The proportions of the two status groups who had kindergarten experience are virtually identical. It should be noted that there was enough nonresponse that these data may not be valid for the population. Ninety percent to almost 100% of both groups of children in Denver and St. Louis (for whom there were data) attended kindergarten. This compares with about 80% to 90% of the San Francisco groups and only 16% to 22% of the Oxford groups.

Family Background

The Test of Basic Experiences (TOBE), General Concepts subtest, was used to obtain an indicator of elements of Upswing children's family background that might bear upon the children's progress in school. A positive correlation of about 0.5 has been shown between the TOBE and the Home Information Scale (HIS) derived from Richard Wolf's Environmental Process Scale. These family background measures, the latter depending upon home interview data, were designed to reflect such variables as amount of stimulation, quantity of educational materials, and parents' aspirations for their children's education. Thus the TOBE appears to provide a reasonable proxy for family background characteristics relevant to school achievement. According to the TOBE documentation, the test "undoubtedly reflects elements of socioeconomic status."

Overall, **the 350 Upswing children who took the pretest tended to be significantly below average in terms of what the TOBE General Concepts test measures.** The Upswing population obtained a mean pretest score of 12.9, with a standard deviation of 4.1. The mean for the normative population (1,707 first graders) was 19.2, with a standard deviation of 4.4. The Upswing mean places the children in the 8th percentile.

TABLE 18

AGES OF CHILDREN IN PROJECT UPSWING'S SECOND YEAR

Age Range	Upswing Status (percentages based on number of children in status group)*		Total (percentages of total population)*
	Tutored	Control Group	
5 yr., 7 mo. through 6 yr.	0	1/1%	1/0.3%
6 yr., 1 mo. through 6 yr., 6 mo.	59/33%	73/41%	132/37%
6 yr., 7 mo. through 7 yr.	87/49%	70/39%	157/44%
7 yr., 1 mo. through 7 yr., 6 mo.	30/17%	28/16%	58/16%
Older than 7½ yr.	2/1%	8/4%	10/3%
Total	178/100%	180/101%**	358/100%

*Non-response cases omitted in percentage calculations. Actual numbers of children were: 181 tutored, 184 control; grand total, 365.

**Rounding error.

TABLE 19

UPSWING CHILDREN'S KINDERGARTEN EXPERIENCE

Attended Kindergarten?	Upswing Status (percentages based on number of children in status group)*		Total (percentages of total population)*
	Tutored	Control Group	
Yes	111/70%	108/72%	219/71%
No	29/18%	24/16%	53/17%
Don't know	18/11%	19/13%	37/12%
Total	158/99%**	180/101%**	309/100%

*Non-response cases omitted. Actual numbers of children were: 181 tutored, 184 control, grand total, 365.

**Rounding error.

There was no significant difference in mean or variance between the Upswing status groups, all cities combined. Nor was there any significant difference between status group means within any city. There were, however, significant differences between cities. All Denver children scores somewhat higher ($\overline{X} = \sim 15$) than those in any other city, although the only statistically significant differences were between Denver and St. Louis tutored children and Denver control group children versus the control groups in Oxford and St. Louis. It is difficult and not particularly important to make sense out of these differences. The important points to be made about the TOBE pretest results are two:

- The results indicate that Upswing children came from "educationally-deprived" family backgrounds
- The results indicate that initial differences between the Upswing status groups in family background can be considered inconsequential to the evaluation (i.e., our comparison groups are statistically equivalent).

Academic Readiness

The readiness inventory used in evaluating the learning difficulties of the Upswing children is divided into three categories of true readiness behavior. The categories pertain to visual-perceptual-motor behavior (such as tieing shoes, holding pencil/crayon, cutting with scissors, etc.), auditory perception (e.g., rhyme recognition, ability to understand verbal messages), and language and speech (development of speech patterns, production of sounds in correct sequence, blending, time required to speak or respond orally, etc.). In addition, the inventory covers writing and spelling, reading, and mathematics skills that go beyond readiness.

The inventory was used (1) to help teachers structure their observations of children in a consistent way on the behaviors traditionally associated with readiness for school; (2) to help tutors understand their pupils' specific difficulties (teachers as well, of course, knew the CARE results and were given help in interpreting them by project staff whenever such help was requested).

It was intended to use the readiness components of the CARE in establishing the comparability of the tutored and control groups in behaviors related to learning difficulties. The instrument could not be used for that purpose, however, because of its scoring mechanism. The means for both groups of children were outside the range of possible scores in all categories of the test. This occurred because teachers skipped so many items in completing the inventory, probably because (1) they described behaviors not yet relevant to the child (2) the child had no opportunity to demonstrate some behaviors, or (3) the child did not have the problems represented. There was no provision for "not applicable," "don't know," or "never" (displays the behavior) responses. (The behaviors are stated negatively; e.g., "Has difficulty staying within lines when writing." The response choices are "Generally" and "Sometimes.") In addition to out-of-range means, the standard deviations of the scores were nearly as large as the range of possible points.

OBJECTIVES OF THE SECOND-YEAR ANALYSIS OF TUTORING EFFECTS

This part of the analysis of the second year of Upswing had the following objectives:

1. To verify the effect of tutoring on tested reading skill found in the initial evaluation.
2. To obtain a more reliable measure of children's self-esteem and test the effect of tutoring on self-esteem.
3. To determine if children's visual-motor integration skills would improve under tutoring if tutors specifically directed part of their work with children to that goal.
4. To continue study of relationships between the three major criterion areas.

DATA COLLECTION PROCEDURES AND SOURCES IN THE SECOND YEAR

Children were identified by their teachers as candidates for Upswing tutoring and evaluated by the teacher on an academic readiness inventory (the previously described Cegelka Academic Readiness Evaluation, or CARE).

The children were then administered a pretest battery that included two individualized instruments: the WRAT and the "Funny Faces Game" (self-esteem inventory); and two individual- or small-group-mode instruments: the Beery-Buktenica test of visual-motor integration and the Test of Basic Experiences. (The same battery was administered at the end of the tutoring period.)

Teachers and tutors were asked for their opinions about the general benefits to children of Upswing tutoring on a questionnaire distributed near the end of the tutoring period. The teachers and tutors also were asked for their assessments of both tutored and untutored children's self-confidence via "Student Profiles" distributed with the final questionnaires. These forms were mailed by on-site data coordinators or given to respondents at Upswing meetings. They were returned directly to the evaluator. The data coordinator and project staff in each city conducted follow-up by telephone or personal contact at the Upswing schools or in meetings as notified of nonrespondents by the evaluation.

STATISTICAL HYPOTHESES USED IN THE SECOND-YEAR ANALYSIS

The analysis looked at the distributions of measurements in the three criterion areas listed above, for differences between the groups of tutored and untutored children. The hypotheses were:

1. That the tutored groups would make greater gains in reading, self-esteem, and visual-motor integration test scores over the tutoring period than the control group, with a difference between the group means for each test significant at the 0.05 level and a variance ratio significant at the 0.05 level ($\alpha = .05$).
2. That, for all tests, there would be a significant negative relationship between the children's pretutoring scores and the amount of gain shown on the post-test, with a correlation coefficient of 0.30 or higher, at $\alpha = .05$.
3. That there would be no significant correlation between change in tested reading level and change in tested level of visual-motor integration skill, at $\alpha = .05$.

4. That there would be a significant positive relationship between tested final level of self-esteem and change in both reading and visual-motor integration score, with correlation coefficients of 0.30 or higher, at $\alpha = .05$.
5. That there would be significant positive relationships between final self-esteem test score and both the teacher and tutor assessment of child self-confidence, with a correlation coefficient of 0.30 or higher, at $\alpha = .05$.

RESULTS OF THE ANALYSIS OF TUTORING EFFECTS ON CHILDREN IN THE SECOND YEAR OF UPSWING

The results in each criterion area are presented separately with discussion of influences of the independent variables that were studied. Then relationships between criterion variables are explored. Finally, conclusions are drawn about the second-year results, with reference to the first-year and the follow-up findings.

The Children's Reading Skills Before Upswing

Only about a quarter of the Upswing children had initial reading test scores that reflected notably deficient skills. About 35% scored in the low-average range, 40% in the average range, and 2% above average before tutoring began. The percentage of children in each score category is given in Table 20. It should be remembered that tests do not measure all aspects of reading. It is quite possible for a child to know how to read but perform poorly in class because of shyness, etc. Such children may have been recommended to Upswing frequently, especially if they had other problems in class.

It appears from Table 20 that, **although Upswing's primary tutoring goal was to help children overcome reading deficits, reading or reading-related behaviors may *not* have been the primary factors in selecting children for the project.** As will be demonstrated in this section, **visual-motor integration problems may have had more to do with children being identified for Upswing than reading problems.** Also, it was shown in the description of child characteristics at the beginning of this analysis that the **children tested quite**

TABLE 20

COMPARISON OF THE PRETUTORING READING LEVELS OF TUTORED AND CONTROL GROUP CHILDREN

WRAT Standard Score Category	Status in Project Upswing		Total*
	Tutored	Control Group	
High average (110-119)	1/1%	5/3%	6/2%
Average (90-109)	63/38%	63/40%	126/39%
Low average (80-89)	52/31%	60/38%	112/35%
Inferior (70-79)	40/24%	23/15%	63/20%
Defective (69 and below)	10/6%	6/4%	16/5%
Total*	166/100%	157/100%	323/101%**

*Children who did not take the pretutoring WRAT, or whose scores could not be used because of error, or could not be converted to standard scores because age data were not available, were omitted from totals. There were actually 181 tutored and 184 control children in the project when it began; grand total, 365.

**Rounding error.

low in basic experiences related to family background/socioeconomic status; evidently, these descriptors represent one or a cluster of primary selection factors. These attributes are all highly visible in children; generally, individual observation or diagnosis is not necessary to detect symptoms of at least some elements of VMI deficiency, and family background or socioeconomic characteristics usually are evident in children's dress and language patterns. To determine whether first-grade children have acquired basic reading skills, some kind of organized individual diagnostic effort must be made.

Sixty percent of the Upswing children did demonstrate low average or lower reading skills, and the Upswing analysis gives several reasons to believe that without the project they would have remained there, or declined. However, it is interesting that teachers apparently did not focus on reading problems when selecting children. Despite the "whole-child" approach that distinguishes Upswing from many tutoring projects, indications were that the participants believed that children were chosen for Upswing because of reading problems.

Effect of Tutoring on Children's Reading Skills

The grouping of scores into the WRAT interpretive categories, as in the preceding Table 20, obscures a critical difference between the tutored and control group children. Figure 9 reveals this difference, namely, that the children who were *not* tutored made higher scores on the reading test both at the beginning and end of the project. The pre- and post-tutoring differences between the groups, mean and variance, were found to be statistically significant. Both groups made significant progress in reading, and made about the same amount of progress (8 points in standard score); thus, the control group's initial lead was maintained over the year. These data suggest that:

1. Children were *not* necessarily assigned to groups randomly, as was supposed to have been done. It appears that project staff must have been influenced in many instances to give tutors to children who demonstrated the greatest problems.

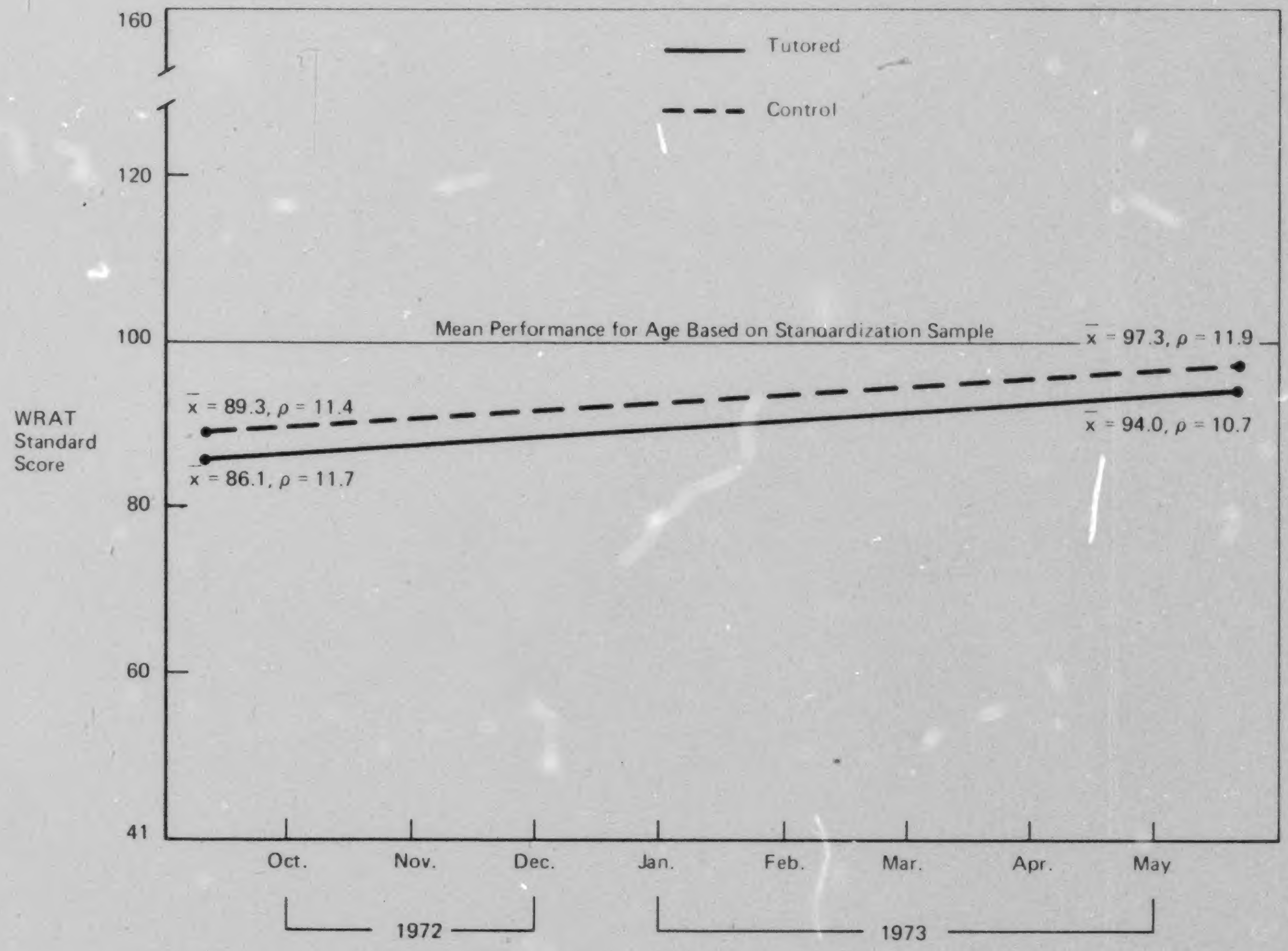

FIGURE 9. COMPARISON OF READING TEST RESULTS IN THE SECOND YEAR OF UPSWING FOR TUTORED AND CONTROL GROUP CHILDREN

2. Some kind of "treatment" was given control group children. The explanation for the consistent and substantial gains among control group children will be developed as the section progresses.

The expected negative correlation was found between initial reading test score (r = 0.44, significant at the 0.001 level). However, this tendency was not strong enough to reduce the margin between the status groups at the end of the year, even though tutoted children more commonly had lower initial scores.

City Differences in Reading Test Results. From a look at the data for the individual cities, one finds that the difference between the initial test score distributions of the comparison groups is attributable to children in St. Louis and San Francisco. As shown in Table 21, the control children in St. Louis had a mean reading pretest standard score 7 points higher than that of the tutored children. The San Francisco control group mean was about 6-1/2 points higher. There was virtually no difference between the groups' starting levels in Denver, and the 2-point difference in Oxford, also in favor of the control group, was not statistically significant.

From the last column of Table 21, the control group children in all cities except St. Louis obtained mean change scores slightly higher than the tutored children. The between-group differences in Denver, Oxford, and San Francisco were not statistically significant. The control children in St. Louis made a minimal mean gain of just under three points, slightly less than the mean gain made by all control children in the first year of Upswing (four points) and slightly more than the mean gain made by the St. Louis control children in the first year (one point). The control children in St. Louis started out with higher reading scores, and they tended to maintain the same level of functioning in reading over the school year, while tutored children tended to raise their reading levels and caught up with the control group. In short, no treatment effect among St. Louis control children is evident.

The St. Louis project model appears to account for that city's unique results. There, the second-year project was much closer to the original design than the second-year project in the other cities. The St. Louis staff

TABLE 21

READING TEST RESULTS FOR TUTORED AND CONTROL GROUP CHILDREN IN EACH CITY

Status Group by City	Pre-Tutoring		Post-Tutoring		Change in Score Pre to Post	
	Mean Standard Score	Standard Deviation	Mean Standard Score	Standard Deviation	Mean No. of Points Change in Standard Score	Standard Deviation
Denver						
Tutored (N=43)	88.8	10.8	96.4	13.7	7.6	11.2
Control (N=39)	88.1	10.7	97.7	12.4	9.6	8.6
Oxford						
Tutored (N=46)	87.7	9.4	96.7	9.3	9.0	8.0
Control (N=48)	88.9	11.9	100.1	9.9	11.3	6.8
St. Louis						
Tutored (N=44)	81.2	11.2	91.1	9.3	9.3	8.7
Control (N=39)	88.3	9.8	91.1	9.0	2.7	7.6
San Francisco						
Tutored (N=33)	86.1	14.4	91.1	7.6	5.0	9.7
Control (N=31)	92.6	12.9	100.1	14.2	7.5	12.7

visited the schools frequently, but their interaction was primarily with the tutors on an individual basis. Their involvement with teachers was primarily a "Hello, are there any problems about Upswing," kind of thing. There was no formal training and minimal orientation for teachers. The point is that, although Upswing ran smoothly in St. Louis, the project apparently was not felt as strongly as an entity in the schools and did not involve teachers as much or in the same ways as the projects in other cities. The data indicate that teachers made the difference for the control group in other cities, and further, that the teacher effect can be attributed to Upswing. These observations will be developed more fully through the remainder of the report.

Number of Hours of Tutoring. The amount of tutoring children received varied from 4 to 50 hours. Half of the children were tutored 35-50 hours; 37% were tutored 20-34 hours. The Upswing data suggest that 20-24 hours may be the critical amount for influencing reading skills. Children who received less gained only from 1-2 points (mean) on the post-tutoring WRAT. The amount of gain at the 20-24 hours mark jumped to a mean of 9 points and remained at about that level regardless of additional hours of tutoring.

It should be noted that factors other than tutoring time undoubtedly are involved. For example, children who received very little tutoring and made negligible reading test improvement may have been absent from school a great deal because of illness or home problems. Still, a trend is evident in the data.

Influences on Reading Achievement of the Independent Variables Selected for Study

Eight independent variables were selected as feasible to measure and as having potential to influence reading test outcomes:

1. Child's sex
2. Child's age
3. Whether child attended kindergarten
4. Child's background of basic knowledge, an indicator of family characteristics relevant to school performance

5. Child's initial level of reading proficiency
6. Child's initial readiness skills
7. Number of hours of Upswing tutoring child received
8. Special services other than Upswing tutoring child received.

Although the status groups were comparable on the other independent variables (except initial reading level), all were checked through analysis of covariance for influence on change in reading level (1) independent of Upswing status and (2) interactive with Upswing status. For example, (1) Without regard for Upswing status, did children who received special educational services other than Upswing tutoring tend to make greater gains in reading than children who did not? (2) Did tutored children who received other special services tend to make greater gains than control group children who received special services? (3) Did kindergarten experience, starting level of basic experiences or initial level of self-esteem bear on progress in reading? The only such influence found was in the area of special services, specifically, remedial reading; its influence was small. [illegible]

About a third of all the Upswing children received something outside the project (most commonly remedial reading or speech therapy). Tutored Upswing children more often got extra help than untutored, by a small margin (35% versus 29%). There were sharp differences between cities, but, within cities, except Denver, the school systems were even-handed in giving extra help to the two groups. In Denver, half of the tutored group, versus 27% of the untutored received extra help (thus the difference between comparison groups project-wide). Only six Upswing children in St. Louis received special services from the school system (four tutored and two control).

There is a good argument that special attention of any kind may have far-reaching effects not necessarily logically related to the nature of the attention. Thus we considered impact on reading of special services without regard for type. No impact was found among either tutored or untutored Upswing children.

We then looked at the impact of remedial reading only. This service was given to a total of 64 children: to 34, or 19%, of the tutored and to 30, or 16%, of the untutored. The initial reading test scores of these two subgroups were very similarly distributed and tended somewhat to be lower than the initial scores of the children who did not get remedial reading. The pretutoring mean score for the remedial group was 84 (in the middle of the low average range), with a standard deviation of 12.6. These data compare with a pretutoring mean of 87.6 for the total population--86.1 for all tutored and 89.3 for all control).

There was a significant difference between the distributions of change in reading score. The mean gain for the remedial reading children was 9.8, with a standard deviation of 11.4. The mean gain for those who did not get this service was 7.7, with a standard deviation of 9.1. These data indicate that **remedial reading tended to have a positive impact**, but **that impact was marginal.** The frequency distributions indicated that somewhat more children in the remedial reading group made great progress, as reflected in the slightly higher mean and larger standard deviation for that group.

Comparing tutored and control group children who had remedial reading, the former gained 8.6 points in standard score on the final test (standard deviation 11.4) while the latter gained 11.3 points (standard deviation 11.3 as well). Thus it appears that control group children tended to benefit a little more from remedial reading than those with Upswing tutors. It might be a case of "too many cooks" for the tutored children. However, the difference is small.

It appears that **Upswing involvement** (not necessarily having an Upswing tutor) was as effective, or nearly so, as remedial reading for most children. Further, there apparently was **no advantage to having both an Upswing tutor and remedial reading, in** fact, the combination **apparently had a negative effect in some cases.**

The Independent Variables and Initial Reading Score. Among the eight variables at the beginning of this discussion were four that might have been expected to be related to pretutoring reading level if not to change in reading level over the year. These variables were: child's sex, whether the child attended kindergarten, child's background of basic knowledge, and initial readiness skills. The last could not be evaluated as explained previously.

Of the others, only background of basic knowledge was found to have anything to do with initial reading level as measured by the WRAT. There was just under 20% associated variation between the basic experience and reading pretests.

Level of Self-Esteem Before Tutoring Began[3]

With data from all cities combined, **there was no significant difference between tutored and untutored children in initial mean level of self-esteem.** Both groups means fell in the "borderline problem" interval.[4] Although there was considerable variance in the distributions (unlike the WRAT), the percentages of children in each score category are roughly equivalent. Table 22 shows that there was some tendency for control group children to score higher, but as just noted, the differences were not statistically significant.

The Oxford children had the lowest initial self-esteem scores, with a mean for both groups of about 8 (standard deviation roughly 16.5). Denver and St. Louis control group children had comparatively high initial means (18.2 and 17.3, respectively), which placed these children in the range of average self-esteem (16 to 35 points) before tutoring began. The Denver and St. Louis tutored groups obtained initial means of 15.1 and 10.4, respectively (borderline problem).

The **picture at the beginning of tutoring**, then was a tendency toward **below average self-esteem**, mediated by considerable variation in scores (mostly in a negative direction). Substantial self-esteem problems were indicated for about a third of both groups and "superior adjustment for 5% to 7%. **Oxford children scored low; and the self-esteem results in St. Louis go along with the reading results in indicating nonrandom assignment of children and tutors** (i.e., **lower children appear to have been assigned to the tutored group**).

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[3] San Francisco children are excluded from the self-esteem test analysis because the pretutoring results were lost in the mail.

[4] The self-esteem measure--"Funny Faces Game"--is still under development. However, it was pilot tested with all first-grade children in a Prince George's County, Maryland, public school. Using that group as a preliminary normative population, categories for score interpretation were established. The mean score for the normative group was 23, with a standard deviation of 11. The pilot test was conducted in September 1972.

TABLE 22

COMPARISON OF PRETUTORING SELF-ESTEEM LEVELS OF TUTORED AND CONTROL GROUP CHILDREN

Self-Esteem Score Category	Status in Project Upswing		Total
	Tutored	Control Group	
Superior adjustment (36 to 41)	6/5%	8/7%	14/6%
Average (16 to 35)	46/36%	50/41%	96/38%
Borderline problem (6 to 15)	32/25%	23/19%	55/22%
Problem (-5 to 5)	22/17%	27/22%	49/20%
Serious problem (-6 and below)	21/17%	15/12%	36/14%
Total	127/100%	123/101%*	250/100%

*Rounding error.

Kindergarten attendance, family background (as measured by the test of basic experiences), and initial reading level were related to initial self-esteem. **Children who attended kindergarten had a mean pretest self-esteem score of 14.5, while children who did not had a mean pretest score of 7.2. This result is largely attributable to Oxford, where few children attended kindergarten and where the lowest initial self-esteem scores were recorded.** These data are insufficient to conclude that kindergarten increases children's self-esteem. However, a fair portion of the test emphasizes comfort in social situations, which is presumably improved by the first school experience. Kindergarten attendance bore no relation to amount of change in self-esteem; thus it appears that if there is an influence, it may be rather quickly overridden.

Effect of Tutoring on Self-Esteem

Figure 10 compares the development of self-esteem as indicated by pre- and post-tutoring test results for tutored and control group children. The results are comparable to those for reading, except that there was no significant margin between the two groups. For the project as a whole, both groups of children gained in self-esteem. The mean gain for tutored children was about 7 points versus about 5-1/2 points for the control group. Thus, there was a tendency to reverse the slight initial edge of the control group (a tendency contributed by the St. Louis project, as will be discussed shortly). The gains were sufficient to bring the means from the borderline category into the average category, albeit at the low end of the average range.

As for the individual projects, Oxford and Denver were very close to the overall pattern, although the Denver control group averaged very slightly greater gain (the Oxford tutored group, on the other hand, augmented its slight initial lead). These differences are negligible. The St. Louis pattern, however, is significant, particularly in relation to the reading test results. Once again the control group made minimal progress: mean change in score of 1.9 points with a standard deviation of 11.6). The tutored group gained 7.1 points with a standard deviation of 18.3. The difference could in part be due to a regression effect, since the control group started with a mean in the average range while the tutored group mean was "borderline." However, such an

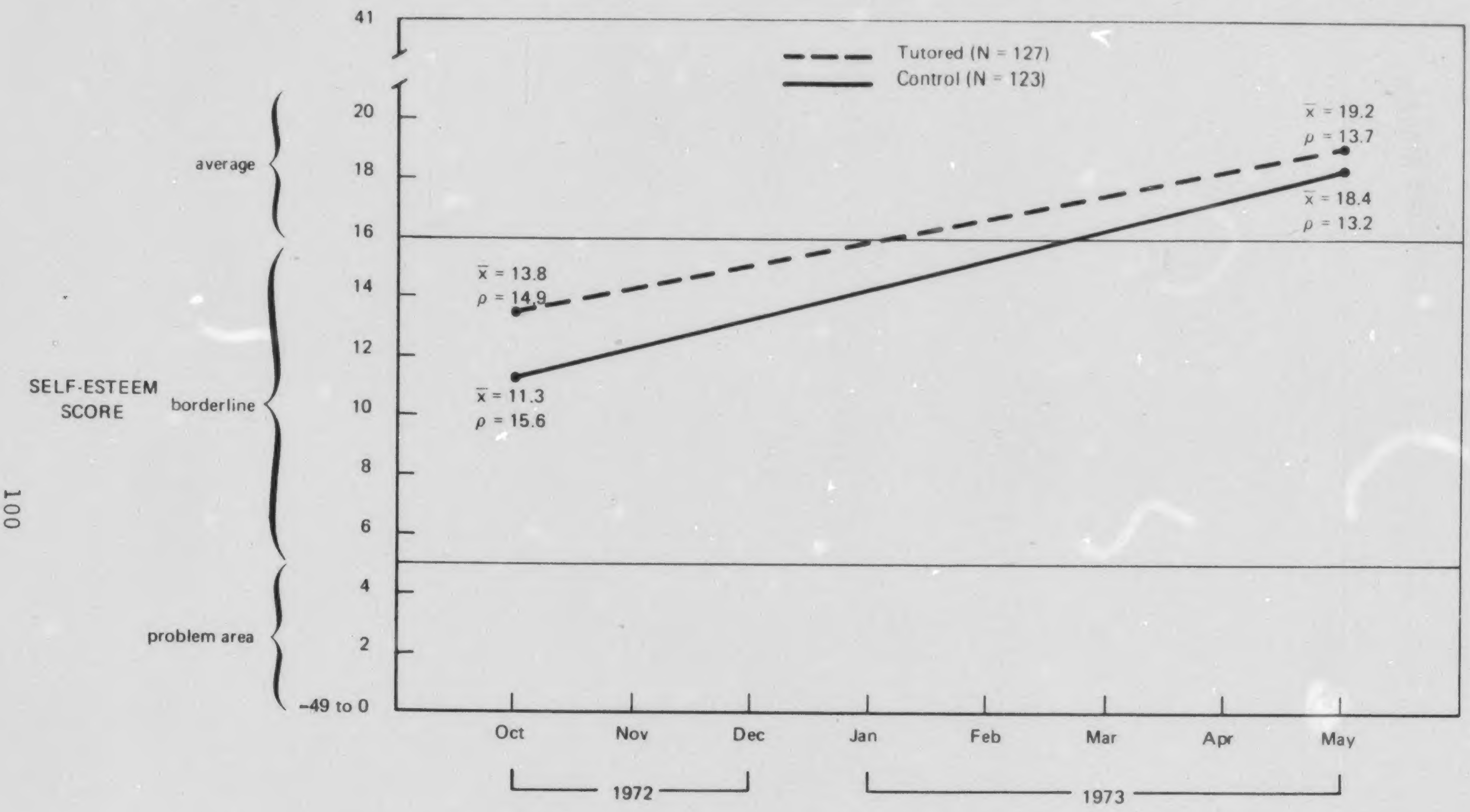

FIGURE 10. COMPARISON OF SELF-ESTEEM TEST RESULTS FOR TUTORED AND CONTROL GROUP CHILDREN

effect was not evident in Denver. There, the tutored group started "borderline" and made *less* gain than the control group, which started average.

Effect of Other Study Variables on Change in Self-Esteem

Children who tested higher initially in basic experiences (a proxy for family background at this age level) showed some tendency toward more progress in development of self-esteem. However, only about 5% associated variation was found between the two variables. All of the other variables considered in relation to reading were considered as well in relationship to self-esteem and none, including amount of tutoring and special services outside Upswing, showed any relationship to development of self-esteem.

The teacher and tutor ratings of children's self-esteem at the end of the school year tended to be in line with the final self-esteem test results, which lends credence to their validity. The correspondence was by no means perfect; low but significant correlations were obtained between the test outcome and both the teacher assessment ($r = 0.24$, $\alpha = .001$) and the tutor assessment ($r = 0.21$, $\alpha = .05$).

Initial Level of Visual-Motor Integration Skill

The tutored and untutored children were virtually identical in initial level of visual-motor integration skill as measured by the Beery-Buktenica test. The pretest means (raw score) were 8.7 tutored and 8.9 control, with standard deviations of 2.4 and 2.3, respectively. These statistics indicate a low level of VMI skill for the children's age range. A raw score of 9 on the VMI converts to a chronological age equivalent of 5 years 3 months for both males and females.[5] The range of VMI raw scores was from 1 (age equivalent 2 years, 10 months male and female) to 14 (age equivalent 6 years, 10 months male, and 6 years, 7 months female). The Upswing children all (except one) were at least 6 years old at the time of the pretest, and 63% were over 6-1/2 years old. Thus there was a strong tendency for these children to show delayed development of visual-motor integration.

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[5] At some points along the raw score continuum, the conversion yields a slightly different age equivalent for boys and girls. The practice of disregarding sex in the Upswing analysis is justified by the even mix of girls and boys in the tutored and control groups.

Of all the independent variables considered in this study, only basic experiences/family background had clearly any discernible relationship to initial VMI score. (The VMI data were not compared for different age groups, since that influence is known. The Upswing age range is quite limited, and the comparison groups were similarly distributed on age.) There was about just under 20% associated variation between initial VMI and initial TOBE scores. This finding could well be due to a cultural differential in child rearing practices. Recent inquiry in this area has pointed out the importance of nutrition and early exercise on development of VMI.[6]

Effect of Tutoring on Visual-Motor Integration

Tutoring once again had no impact on development of skills in the criterion area. Both groups of Upswing children gained, but only marginally. At the end of the school year the tutored children's mean VMI test score was 10.6, with a standard deviation of 2.6; the control group mean was 11.1, with a standard deviation of 2.1. These means translate into an age equivalent of about 6 years for males and 5 years, 10 months for females. The children still were from 6 months to 18 months below expectancy in visual-motor integration, although the difference between the pre- and post-test means represents about 9 months' growth in about 6 months. This is an improvement over the first year and suggests the groups were beginning to move toward expected level. If the effect were continuous, we might expect the children to catch up to peers in two or three years.

The amount (number of hours) of tutoring a child received apparently was unrelated to development of visual-motor skills over the year. It is possible, even probable, that most of the VMI improvement is attributable to a natural process of late maturing. The test scores merely reflect a population average, while many Upswing children appear to be "late bloomers." Further, it appears that there were minimal if any benefits from emphasis on visual-motor activities in tutoring. Ninety tutors said on the final questionnaire that they and their pupils had "frequently" worked on activities to build visual-motor integration. Five said they "rarely" did so and 27 said they "sometimes" did so. If we assume that children who were worked with frequently had more obvious problems than children who were never or rarely worked with, we might expect, due to regression effects and treatment effects, that the "frequent" group would make significantly greater gains. Figure 11 compares the amount of change in VMI test score for the "frequently" and "rarely/sometimes" groups. The former group showed greater dispersion of change in score, which could indicate both greater problems among children who frequently worked on VMI skills in tutoring and some benefits of this "treatment." However, the differences in the two distributions are marginal and could be attributable to influences other than tutoring activity. The authors of the VMI test define the domain of such problems and suggest general forms of corrective activity. Although the Upswing tutors did not follow the test manual in working on VMI, observation indicates they covered much the same ground. Visual-motor problems and corrective exercises were given substantial attention in Upswing training sessions. The activities used in tutoring included coloring, cutting, tracing, putting puzzles together, tactile and kinesthetic games, writing and activities related to development of writing skills, etc.

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[6] See Herbert G. Birch and Joan D. Gussow, *Disadvantaged Children: Health Nutrition and School Failure*. New York: Harcourt, Brace and World, 1970.

The two years of Upswing indicate that visual-motor integration problems are difficult to resolve and are unlikely to be resolved by the efforts of volunteer tutors. However, if one can assume that remedial reading and attendance at a diagnostic learning center would involve work on visual-motor integration for children with problems in that category, then 75 Upswing children worked on VMI with sometone besides their tutor or teacher. About two-thirds of the children who received professional special services received one of those two kinds. Yet special services also had no impact on development of VMI skills.

The Upswing data also indicate that VMI problems did not impact children's self-esteem or hinder their development of reading skills. Beery obtained correlations between VMI and reading test results on the order of 0.4 to 0.5 for children from both low and mid-level socioeconomic backgrounds. However, the reading test used was from the Metropolitan Series. The

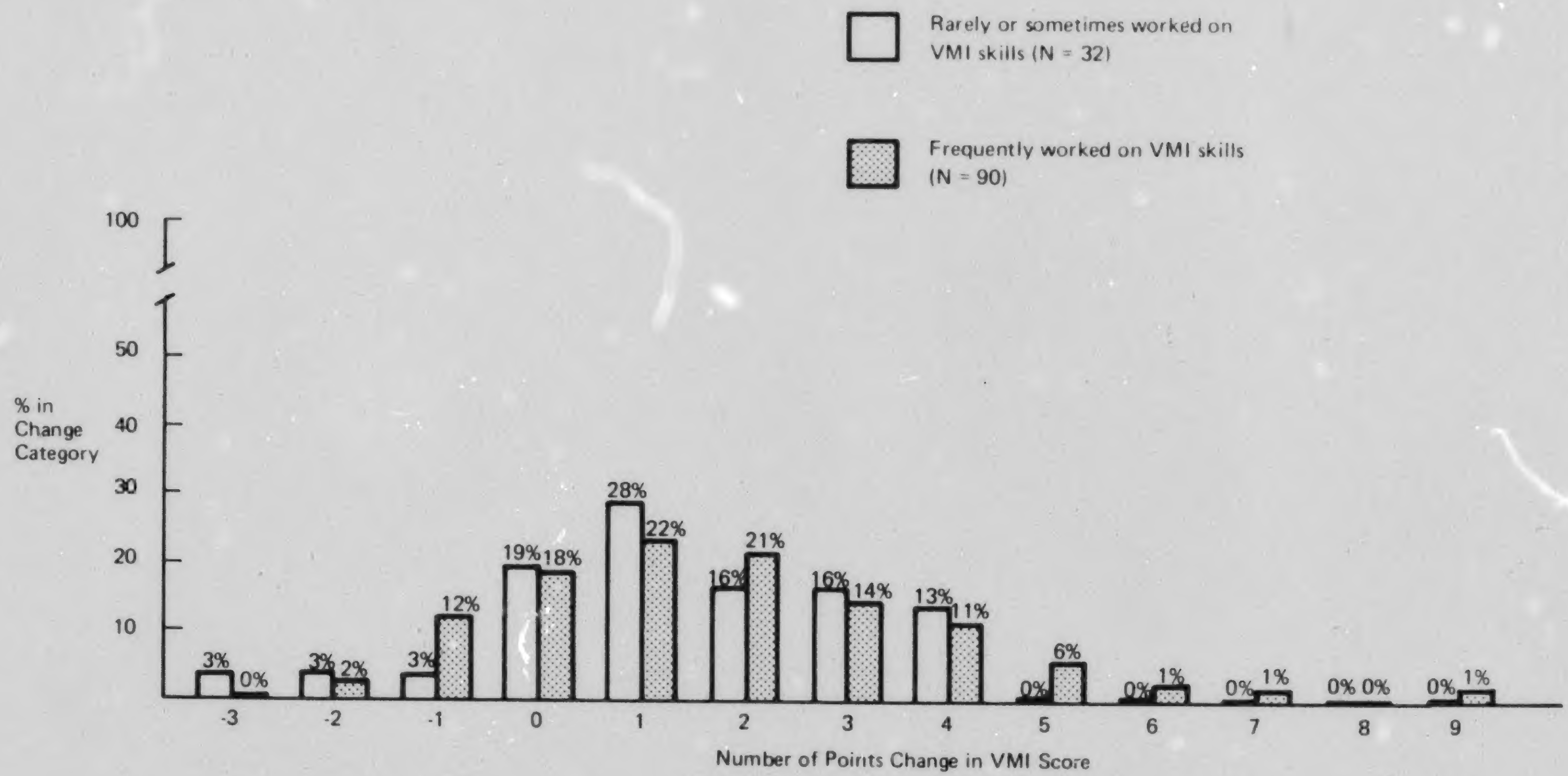

FIGURE 11. COMPARISON OF CHANGE IN CHILDREN'S VISUAL-MOTOR INTEGRATION SKILLS ACCORDING TO HOW MUCH TUTORS SAID THEY WORKED ON SUCH SKILLS WITH THE CHILDREN

(Percentages based on numbers of children who took both the pre- and post-tutoring VMI and whose tutors responded to the questionnaire item on extent of VMI activity.)

Upswing analysis found this measure to be ineffective for Upswing-type children; when VMI problems are present, the scoring system on the Metropolitan caused such error variance that the scores were more indicative of VMI than reading. Thus we feel Beery's correlations may have been spuriously high.

Effects of Tutoring on the Measure of Basic Experiences

The Test of Basic Experiences proved to be an interesting measure that had more in common with all three of the criterion measures used in the evaluation than they had with each other. These relationships will be explored shortly as the final element of the analysis of tutoring effects. Before we turn to that, however, the TOBE results deserve attention in their own right.

It was stated in the description of children involved in this analysis that the TOBE was adopted as a proxy measure of family background characteristics relevant to school achievement. The pretutoring TOBE scores of the Upswing comparison groups were similar and the test results reflected (relative to the test's normative population) a paucity of environmental elements conducive to high performance in school.

Figure 12 presents the pre- and post-tutoring basic statistics. Both groups of Upswing children made meaningful gains on the TOBE; the control group mean score went up about 1 point more than that of the tutored group, but this difference in amount of change was not significant. The differences between the two groups' *final* scores however, were statistically significant. The slightly greater gains made by the control group had an impact when added to their initial lead. This statistical distinction is less important than the fact that both groups improved. Percentile ranks give an indicator of the kind of progress toward the norm that children made. The final mean raw score of the control group fell at about the 30th percentile; the final mean score for the tutored children fell at about the 22nd percentile. The initial means were at the 8th and 7th percentiles, respectively.

This outcome was surprising since the TOBE documentation indicates improved scores are not anticipated without test-specific instruction. One might suppose that the tutoring relationship is particularly conducive to expanding a child's experience base; indeed, the goal was encouraged in all tutor training. Yet amount of tutoring had no relationship to change in

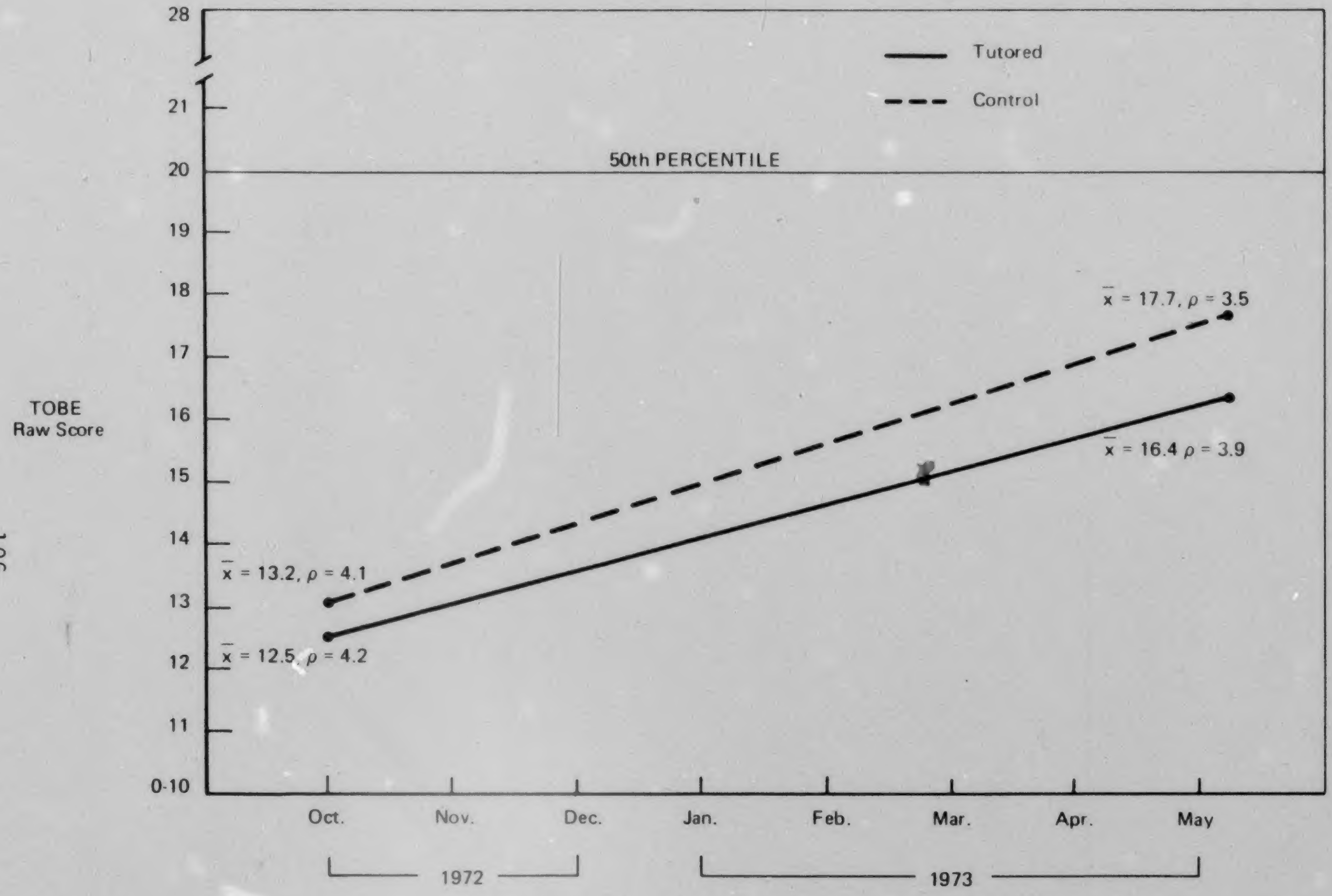

FIGURE 12. COMPARISON OF BASIC EXPERIENCES TEST RESULTS FOR TUTORED AND CONTROL GROUP CHILDREN

[Includes all children who took pretest (177 tutored, 173 control) and all children who took post-test (166 tutored, 159 control)].

TOBE score; moreover, the gains of the untutored children remain to be explained. The authors of the test found no impact of school itself on change in score. Further, if school itself made the difference, one would expect kindergarten to make a difference in initial TOBE scores; it did not. It is true that teachers as well as tutors were given an opportunity to look at the tests used in Upswing and were given the results of the pretutoring battery. However, no instructional program was worked out based on TOBE data unless individuals did so on their own.

We have posited that the influence of the project resulted in a different kind of teaching that caused control group children to gain as much as tutored. The evidence for this is not so clear in the TOBE data as in the reading and self-esteem data. A difference in project presence, and therefore in project impact on teachers in St. Louis, was proposed to explain the lack of gain among control group children's tested reading and self-esteem. However, St. Louis children gained about the same on the TOBE as did the tutored (in fact the control group gain was a fraction greater). Thus, the TOBE results remain somewhat enigmatic.

Relationships Between Criterion Measures

There were low but significant correlations between all pairs of criterion measures before tutoring. The TOBE showed the strongest relationship to other measures initially. There was about 20% associated variation between the initial TOBE and both initial reading and visual-motor integration scores, and about 10% associated variation between the initial TOBE and self-esteem scores. All sets of starting scores tended to be on the low side in reference to normative data, although they were not as low as might have been anticipated except for the VMI and, particularly, the TOBE.

When the effect of initial score on amount of change in self-esteem and visual-motor integration skill was controlled, there appeared to be a positive relationship between the amount of progress children made in development of those skills over the year and the basic experiences (as measured by TOBE) children brought to the program. However, the associated variation observed was miniscule (4%-5%).

The characteristics measured in Upswing seemed to develop independently of each other. The only areas in which amounts of *change* showed any associations were reading and basic experiences. Here again the relationship appeared to be tenuous. We obtained a correlation coefficient of 0.1; although it tested as statistically significant, the value is too low to be important.

In light of the weak albeit statistically significant associations between the initial test results (while scores on all tended to be low), and in light of the lack of association between tests in terms of gains, it can only be concluded that reading, self-esteem, and visual-motor integration are discrete areas of development for children like those in Project Upswing. It also appears that, although the basic experience factor, or family background, bears on level of functioning in all of these areas before formal schooling, the influence of background does not necessarily determine who makes the most progress in development of reading skills or self-esteem. Nor do basic experiences or background factors seem to be primary in visual-motor problems or their resolution.

The Upswing experience suggests that improvements in the areas studied have to be valued individually, for their own sake if they are to be valued at all, just as does kindergarten attendance. For Upswing-age children, there is no reason to assume from these data that any of the criterion attributes is a key to development of any of the others.

CONCLUSIONS ABOUT THE EFFECTS OF UPSWING ON CHILDREN IN THE SECOND YEAR

The analysis found clearer evidence of more substantial progress made by children in the second year of Upswing than in the first. However, children's progress in the second year was not attributable necessarily to tutoring itself. Both the tutored and untutored groups of children develop significantly in reading, self-esteem and basic experiences. There was an indication of growth in both groups in visual-motor integration skills—an area in which there was virtually no progress in the first year.

It is clear that Upswing had impact in its second year, but it was impact due to the presence of the Upswing program, not just tutoring. Upswing seems to have altered the school environment in a way that benefitted children. The evidence for this is as follows.

During the first year, the project had a low profile in the schools. Teachers were offered only brief orientation, which many did not attend. They expressed confusion about the goals and organization of the project. There were no Upswing liaison personnel working regularly in the schools except in San Francisco, where the liaison activity was concentrated in one school. In short, the project lacked *presence*. Further, teachers were given only broad guidelines for selecting children (average IQ, with minimal learning difficulties was the stated combination of selection factors), and generally did not know which children were in the Upswing control group. (Although they knew which children were assigned tutors, the teachers apparently did not necessarily connnect "no tutor" with control group status. The test factor may have been confusing because testing in the first year was intended to be a screening device.)

In the second year, teachers were given training in child observation and were given a set of behavioral descriptors to use, as a guideline in making selections. Regardless of the quality of the training or the appropriateness of the behavioral guideline, they served on function: to focus teachers attention on the characteristics and needs of certain individual children. In addition, teachers were explicitly told which of their pupils were in the Upswing control group; in two of the four cities they received Upswing training throughout the year; and in all cities, an Upswing staff member visited each school at least once a week.

As the foregoing suggests, the conclusion is that control group gains in the second year are attributable to teacher efforts with those children. The greater or different kind of teacher work with Upswing control children in turn appears to be attributable to increased teacher awareness of involvement in a national-scale pilot project, to increased attention to teacher needs and preferences by Upswing staff, and to the training offered teachers by the project. Teachers did not always value Upswing training; however its possible import is reflected in the fact that 60% of the teachers said they had no training in child development outside of Project Upswing.

The data show that the St. Louis control group made very minimal progress in the second year as in the first, while tutored children made significant gains both years (although greater gains in the second). It appears that this can be traced to project characteristics. There was no teacher training program in

St. Louis. Teachers were given project orientation individually, which included discussion of the child characteristics relevant to selection of children for Upswing and use of the behavior inventory as a selection aid. In the schools, Upswing staff apparently focused their efforts on providing assistance to tutors, although staff maintained friendly relationships with teachers and checked on their satisfaction with the tutors. St. Louis teachers generally were quite satisfied with Upswing, but it seems that they were not involved in the same way as teachers in other cities. It also seems that the project's identity was different from and not so strong as it was in other locations.

It is possible that teachers:

- Intentionally compensated to control group children
- Were made to feel special, and specially-observed by involvement in Upswing and therefore performed better[7]
- Benefitted professionally by their involvement through increased awareness of the need for and methods of child observation and prescriptive instruction
- Began to believe more in the children's capacity to improve because the teachers made a conscious decision that each child had potential for normal functioning in the classroom.[8]

More than likely all of these explanations were operative.

As for the children, tutored and untutored alike, we still do not know whether the progress they made is attributable to the simple fact that they were given special attention or to instruction. Both were no doubt involved, but in what proportions we do not know. **Number of hours of tutoring a child** received was positively associated with test-observed reading gains (there seemed to be a minimum number of hours required for significant gain). This suggests instruction could have been more important in development of reading skills. However, number of hours of tutoring apparently had nothing to do with gains in self-esteem, visual-motor skills, or basic experiences. This suggests that attention, with a strong classroom factor, could have been the more important variable in these areas.

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[7] Something like the classic Hawthorne effect: F.J. Roethlisberger and W.J. Dickson, 1970. *Management and the Worker.* Cambridge, Massachusetts: Harvard University Press.

[8] R. Rosenthal and L. Jacobson, 1968. *Pygmalion in the Classroom.* New York: Hold, Rhinehard, & Winston.

The foregoing may seem to suggest that the work of the tutors was of little or no importance. That is not our intent. Tutoring itself had significant impact in the first year and there is no reason to believe it did not in the second. It is just that the untutored children got a share of Upswing benefits from another source, and tutored children as well may have received benefits of involvement from sourcws outside the tutoring relationship.

One additional piece of evidence for project impact in the second year comes from the follow-up data. In the year following Upswing involvement, neither the former tutored group nor the former control group increased its rate of progress in reading; in fact, there was a suggestion of a possible decline in skills for both groups. This was true even for children who received remedial reading in the follow-up year.

V. UPSWING TRAINING AND PROJECT MANAGEMENT

The analysis identified two essential attributes of a successful in-school volunteer program:

- Active leadership in the schools
- Continuing personal interaction between the leadership and the participant groups.

The meaning of these two summary statements is developed in this section. It may be said at the outset that the important characteristics of this project appear closely related to the sense of involvement of various participant groups and to the way individuals perceive the importance of project objectives and/or activities. The following presentation describes management and training strategies used in Upswing. It relates the evidence to our belief that Upswing was "successful."

WHAT WAS LEARNED IN THE FIRST YEAR OF UPSWING[1]

The original design involved project leadership most heavily at the beginning and end of tutoring. The tutoring period itself was a kind of grey area in which needs for management apparently were not thought out fully. It appears that the assumption was something like: once you get the machine running it will take care of itself; you only have to come back in to shut it off.

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[1] Operations in the first year were described in detail in two previous reports: P. Plantec, et al; *Evaluation of Project Upswing: Interim Report* (January 1972), and *Final Evaluation of Project Upswing's First Year* (December 1972). Silver Spring, Maryland: Operations Research, Inc., Technical Reports 700 and 731.

To get the projects started, the directors:

- Explained Upswing to school system administrators and got their agreement to receive the project in the schools
- Contacted school principals for their agreement to participate and to recruit teachers (teachers were recruited by principals and, in some cases, participated unwillingly)
- Recruited volunteers to serve as tutors, through newspapers, television and radio, through local school volunteer organizations, churches, and clubs, and through the universities
- Bought tutoring materials
- Conducted approximately 15 hours of prescribed preservice training for the volunteer tutors
- Held a two-hour orientation meeting for some teachers who agreed to participate
- Asked teachers to refer children who appeared to need extra help
- Divided the children referred into experimental and control groups and assigned volunteers to children
- Tested children.

Most of the foregoing activities took place in the summer before school opened or immediately after school started. Volunteer recruitment, however, as well as selection and assignment of children, continued through October. Tutoring began in November. Many tutors recruited early lost interest by the time actual tutoring started, and dropped out.

Delays were encountered in another major start-up task--pretesting of children. Test results were intended to be used for making final selections from among referrals and for ensuring matched groups for the evaluation. However, tutoring had to get under way before testing could be finished and the results reviewed. "Pretesting" went on from October into January.

The only other prescribed activity of project staff was to administer the test battery at the end of tutoring. This was done in April and May.

Management Problems

The directors and staff typically found themselves involved in controlling minor crises from the beginning of tutoring. There was apparently a lack of role definition. School personnel seemed unsure of their responsibilities to Upswing tutors, and there was limited opportunity for teachers and principals to communicate with tutors. Although there were exceptions, most teachers and tutors had great difficulty arranging to meet and discuss the child being tutored. In some cases there was little motivation on either the teacher's or volunteer's part to discuss the child.

Upswing staff were not often present in the schools. Conflict and even hard feelings arose in a number of cases because of poor communication and a lack of clear leadership for Upswing activities at the school building level. Unbeknownst to project staff, there was considerable tutor absenteeism and attrition; this seemed to be the problem that bothered school personnel the most. The tutors often felt they were not getting the advice and encouragement they needed to do a good job; questionnaires indicated that tutors felt somewhat isolated.

From talking with teachers and principals, it appears that such problems are common in school volunteer programs. **Supervision and support of volunteers in the schools seem to be critical needs that are difficult,** if not impossible, **for regular school personnel to satisfy** in view of their other responsibilities.

Problems in Training

Tutors indicated that preservice training did not fully meet the needs they felt in working with their pupils. Typical comments were that the preservice training was good, but covered too much to absorb in so short a time period, was too general, and too abstract.

Many tutors called the project office for help. In one city, the untrained tutors felt especially at a loss, and the project director responded by conferring individually with all who wanted help, to diagnose children's problems and work out prescriptive tutoring plans. Although it is undocumented, CRI detected in field visits that a significant amount of individual prescriptive advice was given tutors informally by project staff. However, it appears that such advice was given to the relatively few individuals who actively sought it out.

There were a few inservice meetings held for the trained group. Tutors generally were reluctant to call them "inadequate," but noted on questionnaires that these meetings occurred too late in the year and did not meet individual needs.

Communications

The projects generally responded to problems as soon as they learned of them, but since channels of communication during tutoring were poorly defined, it often was rather late before needs were brought to staff members' attention. Generally the initiative had to be taken by the individual tutor, by the teacher, or by a principal acting for a teacher. Teachers particularly tended to keep their problems with Upswing to themselves, probably because they were too busy with other activities which were regarded as more important or more directly their responsibility. In personal interviews with a sample of participants, the evaluation team found a good many dissatisfactions with Upswing that had not been expressed. The team also found widespread appreciation and a general high regard for the project despite the problems.

The foregoing review of Upswing's first year focused on problems. We do not want to imply that problems were paramount. The large majority of participants in Upswing found it satisfying and worthwhile. The most uncertainty was found among teachers. Our purpose in pointing out the problems is to show why the projects took the direction they did in the second year.

NEW EMPHASES IN THE SECOND YEAR

The evaluation indicates that the most important changes made in Upswing's second year may be summed up as increased interaction between

Upswing staff and all groups of participants, and clearer definition of the roles of staff and participants. These changes were accomplished in somewhat different ways by different projects, but the analysis indicates that, with the exception of St. Louis, the differences in approach were small. St. Louis, which did not have any formal inservice training, will be discussed a little farther on in the narrative.

ORIENTATION AND TRAINING FOR TUTORS

The U.S. Office of Education specified that a minimum of 30 hours of tutor training should be given. The allocation of time to preservice and inservice training was left to the discretion of the project directors, as were the format of training and the content beyond certain minimum requirements.

Preservice Training

All projects tried to equip tutors with enough background information to give them confidence in starting to work with their pupils. There were different views of what constituted enough, as shown by the number of hours allocated to preservice training. However, based on responses to a questionnaire distributed about two months after tutoring began, tutors generally tended to be satisfied with the amounts of preliminary information received.

A set of minimum requirements for preservice training was established by the U.S. Office of Education and the project directors. Those requirements were:

- To describe Project Upswing's organization and objectives, including definition of roles and relationships of project participants
- To provide orientation information about the schools and the first-grade curriculum
- To define the rules of conduct and dress Upswing tutors would be expected to follow in the schools.

In addition, the preservice training offered by all projects included:

- Discussion of normal developmental needs and characteristics of Upswing-age children

- Discussion of special characteristics and needs of children who have minimal learning difficulties.

Evaluation team observations, backed up by questionnaire responses of the tutors, indicated that the depth and quality, or both, of coverage of these aspects of child development varied; however, all projects at least touched upon them.

Another common feature was that all projects used the readiness inventories completed by teachers in selecting children for Upswing. Each tutor was given the inventory, and in some cases the pretest data of his or her pupil as well. Staff helped tutors interpret the information for diagnosis and planning of a prescriptive approach to tutoring. This was not always done in preservice training, but if not, it was done individually, shortly after tutoring began.

All projects paid careful attention to housekeeping details in the second year, since they had been troublespots in the first. The staff made sure in preservice training to tell tutors how to get to their school, the school telephone number and secretary's name, the name of their pupil's teacher, the procedure to use to report in at the school, the procedure to use if they could not keep a tutoring appointment, and the name and telephone number of an Upswing staff member to contact about questions or problems.

Tutor Opinion About Preservice Training

Table 23 summarizes tutor opinion about the adequacy of training in defining the project and participants' roles, and in equipping them to start working with the children. The data are from the "Volunteer Registration and First Impressions" questionnaire, distributed about two months after tutoring began (copy in Appendix B). The response rates were as follows:

City	No. of Tutors in Project When Form Was Distributed	No. of Tutors Who Returned Form	Response Rate
Denver	42	36	85%
Oxford	53	49	92%
St. Louis	45	35	78%
San Francisco	34	25	74%

Table 23 indicates that all projects did quite well in clarifying project goals and the roles of tutors, teachers, and Upswing staff. There appear to have been some minor differences in effectiveness in establishing teacher and staff roles in the minds of tutors, but the differences are relatively unimportant in view of the overall picture of success.

Differences were greater in tutor satisfaction with child-related information. It is evident that the Denver project's comparatively extensive and very well-planned preservice training program resulted in greater tutor satisfaction. Denver offered 24 hours of training before tutoring began; the agenda included observation of prospective pupils in the classroom followed by discussion. The other cities offered 6 hours (San Francisco), 8 hours (Oxford), and 15 hours (St. Louis).

The weakest aspect of preservice training in all cities was how to recognize and deal with different kinds of learning problems. That is also, of course, the most complex and difficult to convey of all the topics addressed in the training.

Table 24 shows that the projects all were quite successful in covering organizational matters for a smooth beginning of tutoring. The weakest areas in all cases were preliminary arrangement for tutoring space and adequacy of tutoring space. Oxford was exceptionally successful in getting arrangements made in advance. Tutoring locations had to be left up to school staff, and in many cases there was not much they could do because there were few options and much competition for space outside classrooms. Apparently San Francisco schools were most accommodating or San Francisco tutors were most tolerant of less than optimal tutoring locations. However, tutor comments indicated that in all cities they understood the problems of setting aside space for tutoring.

Denver and Oxford tutors apparently were less well informed about what tutoring materials were available to them in the schools. The St. Louis project distributed a typed list of materials to tutors and set up a supply closet in each school which was 100% effective in that area. Despite the foregoing differences, the major conclusion is that organizational matters were handled well in all cities.

TABLE 23

SUMMARY OF TUTOR OPINION ABOUT INITIAL TRAINING RELATED TO PROJECT GOALS, ROLE DEFINITION AND INSTRUCTION OF CHILDREN

Questions Asked	Number & Percentage of Participants in Each City who Answered Positively				Total
	Denver	Oxford	St. Louis	San Francisco	
Have the goals of Project Upswing been made clear to you?	35/97%	48/98%	33/94%	23/92%	139/96%
Has your role as an Upswing tutor been made clear to you?	36/100%	47/96%	33/94%	24/96%	140/97%
Do you have a clear picture of the kinds of help you can expect from the child's teacher?	30/83%	41/84%	26/74%	19/76%	116/80%
Do you have a clear picture of the kinds of help you can expect from the Project Upswing staff?	35/97%	45/92%	29/83%	23/92%	132/91%
Do you feel you were reasonably well prepared by Project Upswing to begin working with the child?	32/90%	39/80%	24/69%	20/80%	115/80%
Have you received enough information about the normal needs and characteristics of first-grade children to guide you in determining what kinds of help your pupil needs?	32/90%	38/78%	24/69%	14/56%	108/75%
Has Upswing taught you enough about how to recognize and deal with different kinds of learning problems?	28/78%	29/59%	13/37%	15/60%	85/59%

TABLE 24

SUMMARY OF TUTOR OPINION ABOUT HOW WELL ORGANIZATIONAL MATTERS WERE COVERED IN PRESERVICE TRAINING

Questions Asked	Number & Percentage of Participants in Each City Who Answered Positively				Total
	Denver	Oxford	St. Louis	San Francisco	
Were you notified what date and time you would begin tutoring sufficiently in advance?	35/97%	47/96%	32/91%	24/96%	138/95%
Did arrangements for tutoring space seem to have been made in advance?	21/58%	45/92%	25/71%	16/64%	107/74%
Has the school provided a satisfactory location for your tutoring?	23/64%	34/69%	25/71%	21/84%	103/71%
Were you told what procedures you should use when you "reported in" for tutoring the first time?	32/90%	44/90%	34/97%	24/96%	134/92%
Do you know what tutoring materials are available in the school?	27/77%	38/78%	35/100%	23/92%	123/85%
Do you know where to find tutoring materials available in the school?	32/90%	40/82%	34/97%	22/88%	128/88%
Did it appear that the child's teacher was prepared for your arrival?	32/90%	43/88%	32/91%	22/88%	129/89%
Do you know whom to contact if you have a question or problem concerning Project Upswing?	36/100%	48/98%	35/100%	25/100%	144/99%

Assessments of preservice training should be considered in relation to the overall assessments of training and to the findings about project effects on children. The initial response to training will be considered in those contexts as the analysis develops.

Inservice Training for Tutors

The following topics were required to be covered in inservice training if they were not covered in preservice training:

- Orientation to first-grade children (normal developmental characteristics and needs)
- Orientation to characteristics and needs of children with minimal learning difficulties
- Techniques for developing and maintaining relationship with child, teacher
- Use of Peabody Language Development Kit[2]
- Techniques for supporting child's classroom learning activities (how to use actual classroom materials and related materials)
- How to organize and pace tutoring sessions
- Techniques of positive reinforcement.

Beyond these requirements, the projects were free to provide any additional training, reinforcement of previous training, or problem-solving assistance they thought appropriate, with the condition that such additional assistance had to be given over the tutoring period, whether individually or in a group workshop type mode.

Three of the four projects established a schedule of regular meetings for tutors throughout the year. The meetings were held monthly in Denver and San Francisco. They were held weekly in Oxford, since Project Upswing constituted a course at the University of Mississippi. Although inservice meetings were not attended regularly by all tutors, they built a reliable communications channel into the projects. The data indicate that they were, on the whole, responsive to tutors' needs and strengthened the projects.

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[2] The Peabody Kit is a commercially developed package that includes picture cards, puppets, interlocking colored links, etc., designed to stimulate a child's thinking and verbalization. A set of lesson plans is provided with the kit, but most Upswing tutors preferred to ad lib, using the Peabody for a change of pace along with other tutoring activities.

There was no inservice training program for tutors in the St. Louis project. The approach to ongoing support there was entirely individualized. Staff members visited the elementary schools twice weekly and helped individual tutors as needed. There were one or two get-togethers for the tutors in some schools, in which they shared ideas, tribulations, and successes; staff were there for consultation at those times. The other projects also had staff members visiting each school at least once a week. Thus there was double coverage in the other cities.

Tutor Opinion About the Overall Training Program

By the end of the year, opinion about training appeared to be somewhat less enthusiastic overall than at the beginning. Nevertheless, the tutors indicated that they generally considered training necessary and that they valued the training they received. Questionnaire comments indicated a good deal more satisfaction (or less dissatisfaction) with the training in the second year than in the first. In the following presentation, two training modes are considered separately--group sessions, which were more in line with the standard implications of "training," and individual counseling.

The following data were taken from the "Volunteer Final Impressions" questionnaire (copy in Appendix B), which was distributed in May 1973. The response rates were:

City	No. of Tutors in Project When Form Was Distributed	No. of Tutors Who Returned Form	Response Rate
Denver	37	31	84%
Oxford	47	43	91%
St. Louis	42	30	71%
San Francisco	20	16	80%

The rationale for collecting tutors' final impressions of the adequacy of training is that the experience gives perspective to the original impressions. It was expected that some first-impression optimism would be dampened by the reality of facing the tutoring challenge, and such was the case. A full understanding of the general final impressions of training and the reasons behind them can only be obtained through some detailed analysis. So, proceeding from the general to the specific, we present the findings below.

General Value of Group Training Sessions. In the final analysis, half of the Upswing tutors still felt that the training sessions were very important to them, perhaps not perfect, but essential to performance. Another 29% agreed that the group training was quite useful, but felt that it was not essential to the task. Bear in mind that both views probably were correct. Upswing's first year proved that some people do not really need much training, while others do. No one said that training was completely unnecessary, only one said that it was presented poorly, and only three said they needed no training.

Table 25 gives a breakdown of responses about the value of group training from each city and for all cities combined. The percentage of responses of each kind are given, but should be compared city to city only with caution; the number of respondents in each city, especially San Francisco, is so small a base, that percentages may be misleading. The most important point to be made about these data for each city are those just made about the overall responses. About 60% of respondents in all cities except St. Louis felt that the group training meetings were very important to their work as tutors. The difference in St. Louis is evidently related to the number, timing, and nature of meetings held there, as described previously; it does not necessarily mean that St. Louis tutors valued the training they received less, only that, apparently they found less of substance in the few *group* meetings that were held. The fewest "useful but not essential" responses came from Denver (fewest in relation to number of respondents), which could indicate proportionally greater value placed on training meetings there. However, the picture is obscured by comparatively high self-reported

TABLE 25

TUTOR OPINION ABOUT THE GENERAL VALUE OF UPSWING GROUP TRAINING MEETINGS

(Percentages based on number of respondents in each city who answered question. Only one, in Denver, did not.)

Tutor Opinion	Number and Percentage of Respondents Who Expressed Each Opinion				
	Denver	Oxford	St. Louis	San Francisco	Total
Did not attend enough meetings to have an opinion	7 23%	2 5%	10 33%	1 7%	20 17%
I did not need training	2 6%	0	1 3%	0	3 3%
Training is not necessary for tutors	0	0	0	0	0
Training was generally presented poorly	0	0	1 3%	0	1 1%
Training was useful but not essential	3 10%	16 37%	11 37%	5 33%	35 29%
Training was very important to me as a tutor	19 61%	25 58%	7 24%	9 60%	60 50%
Total	31 100%	43 100%	30 100%	15 100%	119 100%

absenteeism in Denver. (One cannot tell if the "I did not attend ..." responses in St. Louis are truly absence-related or are related to the number of meetings held.) The San Francisco training program was quite similar to Denver's in content and approach, but the San Francisco project had a much lower staff-tutor ratio, and the staff gave more individualized assistance to tutors than was given in Denver. It appears likely that group meetings were considered less essential by San Francisco tutors because they had such strong support outside the meetings.

In Oxford, as noted previously, Upswing meetings, held weekly, constituted a university course. Because of this frequency, non-student volunteers did not always attend, and they may have perceived the meetings as not designed for them. The university students involved in Upswing were almost all upper-level students in the School of Education. They had generally taken and currently were taking other courses relevant to tutoring, so that the Upswing sessions may well have been somewhat less significant to them than to tutors not immersed in education.

To investigate the general impressions of group training, tutors were asked a number of questions about specific characteristics of meetings.

Content of Group Meetings. The aspect that contributed most to satisfaction of the trainees was the **introduction of new ideas for use in tutoring, ideas about specific materials and techniques**. Other factors contributing significantly to the utility of training as perceived by the trainees were (in order of importance): **how to size up the child, his needs and what to expect; the confidence which comes from being trained; how to relate to the child and teacher; how to evaluate the child's progress; and how to handle behavior problems**. A ranked list of important factors is provided in Table 26.

Tutors were given an opportunity to suggest alternate types of group sessions. About 35% of the tutors used the opportunity to suggest what they felt would be improvements. Most of the suggestions for better training came from St. Louis where very little formal training was offered. It is interesting to note that the suggestions for alternate types of training (from all cities) correspond almost exactly with the reasons volunteers were most satisfied with training, which indicates both that these things were important and they they were not adequately presented, to varying

TABLE 26

ASPECTS OF GROUP TRAINING CONSIDERED MOST USEFUL BY TUTORS

(Percentages based on a total of 98, the number of respondents to this question.)

Major Reasons for Usefulness of Sessions	Response Rates*
They acquainted me with a variety of materials and their uses	77%
They gave me knowledge of teaching techniques	60%
They helped me tutor appropriately to meet my pupil's specific learning needs	37%
They helped me know what to expect from my pupil	32%
They helped me diagnose my pupil's specific learning needs	31%
They gave me confidence	21%
They helped me to have a better relationship with my pupil	8%
They helped me have a better relationship with my pupil's teacher	8%
They helped me evaluate my pupil's progress	6%
They helped me handle behavior problems	5%

* Respondents checked the three reasons they considered most important.

degrees. It appears that more self-perceived needs were unmet in St. Louis where little formal training was offered. And all was offered before tutoring began. These perceived needs did not affect ability to tutor, according to the children's test results.

The **most frequent suggestions were,** in order of importance:

- Meetings to discuss tutoring ideas
- Meetings for instruction in specialized techniques
- Help in planning lessons to cover specific problems
- Sessions to observe classroom teachers with first-grade children
- Meetings to discuss current school reading program
- Meetings between volunteers and teachers to discuss role expectations.

Schedule and Environmental Aspects of Training Meetings. The tutors were asked to assess the schedule, location, physical environment, and social atmosphere of Upswing meetings to make sure such variables did not impact their assessment of the value of training. No negative influence was found. About 85%-100% of the respondents in all locations said that these aspects of Upswing meetings were favorable. The only factor that tutors said caused them to miss meetings was schedule, and schedule conflicts did not appear to be a great problem.

General Value of Individual Counseling. Overall, about **75%** of the responding tutors **valued the individual help** they received from Upswing staff. Forty-three percent considered it useful, although not essential, while 32% considered it very important (by implication, essential). These data were not cross tabulated with the data on the general value of group training. However, the response patterns are about the same.

The distribution of opinion about the value of individual help is presented in Table 27 for each city and for all combined. As for group training, the percentage of responses in each category for the individual cities are based on too low numbers to be substantial. The most important features of the data are that the respondents in each city responded favorably about the worth of the help received. Only four respondents, dispersed over three cities, said that individual help was not available to them, while only seven

TABLE 27

TUTOR OPINION ABOUT THE GENERAL VALUE OF INDIVIDUAL HELP PROVIDED BY UPSWING STAFF

(Percentages based on number of respondents in each city who answered the question. Only one, in San Francisco, did not.)

Tutor Opinion	Number and Percentage of Respondents Who Expressed Each Opinion				Total
	Denver	Oxford	St. Louis	San Francisco	
Individual help was not available to me	1/3%	2/5%	1/3%	0	4/3%
I did not need individual help	6/19%	7/16%	4/13%	1/7%	18/15%
The Upswing staff generally did not give the kind of individual help I needed	1/3%	4/9%	2/7%	0	7/6%
It was useful, but not essential	14/44%	19/44%	15/50%	4/29%	52/44%
It was very important to me in my work as a tutor	10/31%	11/26%	8/27%	9/64%	38/32%
Total	32/100%	43/100%	30/100%	14/100%	119/100%

respondents, from three cities, said the kinds of help offered did not meet their needs. About 15% said that they did not need individual help.

A greater proportion of respondents in San Francisco than in any other city considered individual help very important. We relate this to the very low tutor-staff ratio. San Francisco had trouble recruiting volunteers and about half of those who started tutoring dropped out. The respondents from that city probably represent a core group of tutors who were very dedicated to the project and who received a great deal of high-quality individual attention. Interestingly, St. Louis tutors placed no more value on individual help than on the group training offered there.

Content of Individual Counseling. The tutors were asked to indicate the ways in which individual help was useful to them if they had found it useful (Table 28). They were given the same checklist of benefits as shown in Table 26 for training meetings. The dispersion of responses in Table 28 reflects the obvious--individual help was useful to different people for different reasons. Comparison of Tables 26 and 28 shows that there was extensive overlap in the benefits of formal training and individual help as perceived by tutors. Formal training was valued most for what it was intended primarily to do--acquaint tutors with instructional materials and techniques. Individual help tended to be valued considerably less consistently for these reasons, valued somewhat more often than formal training for building tutor confidence, and considerably more often for helping with tutor expectancies for pupils, pupil evaluation, and the pupil-tutor relationship.

When asked where individual help could have been stronger, tutors named the following (listed in order of importance):

- Inservice hints or suggested approaches to dealing with the child (or school) [this seemed to refer to management of behavior or attitude problems with the child; the school factors were not clear]
- Discussions with child's *teacher* about techniques and progress
- Extra individual instruction in reading techniques.

TABLE 28

ASPECTS OF INDIVIDUAL HELP FROM UPSWING STAFF CONSIDERED MOST USEFUL BY TUTORS

(Percentages based on a total of 98, the number of respondents who answered the question.)

Major Reasons for Usefulness of Individual Help	Response Rate*
It helped me tutor appropriately to meet my pupil's specific learning needs	38%
It gave me knowledge of teaching techniques	34%
It gave me confidence	33%
It helped me diagnose my pupil's specific learning needs	29%
It acquainted me with a variety of materials and their uses	26%
It helped me to know what to expect from my pupil	26%
It helped me to have a better relationship with my pupil	21%
It helped me evaluate my pupil's progress	20%
It helped me handle behavior problems	15%
It helped me have a better relationship with my pupil's teacher	11%

*Respondents checked the three reasons they considered most important.

Amount. Nearly 70% of the second-year tutors felt they had an adequate *amount* of individual counseling. The other 30% expressed a need for additional help. About this ratio prevailed in all cities except San Francisco, which had the greatest proportion of tutors (12 out of 15) who expressed satisfaction with the amount of individual counseling received. Again this seems to be related to tutor-staff ratio.

Group Training Versus Individual Counseling. Volunteers were asked to compare the utility of group training and individual counseling. As shown in Table 29, nearly half the tutors preferred not to make a choice, seeing the two as equally useful. About a third preferred the group training to individual and the rest preferred individual counseling. It is important to note that in Denver, where group training was emphasized, about half of the tutors preferred that form of training; while in St. Louis, where individual counseling was stressed, about half of the respondents stated they preferred it that way. This evidence supports the assumption that the specific training approach should be developed to suit the experience and strengths of the key training individuals, rather than to follow an externally prescribed course.

From what happened in the first year, it appears that individual contact is necessary; but it does not have to be (and should not be, in view of costs), the primary mode of delivering *training.* Indeed, the individual contact in all locations involved mostly problem-solving, response to questions, and moral support rather than training. The data suggest that tutors tended to perceive training and individual counseling as coequal and separate functions, both useful, but not necessarily essential to their work.

Materials Used in Training. Eighty-two percent of the tutors who responded to the questionnaire thought the materials used in the training they received were either good or outstanding. Only 15% of all respondents considered the materials inappropriate or of little value. Table 30 lists types of materials used in training.

The Peabody Language Development Kit was described previously. The DISTAR Reading System is a phonics-based program designed originally for children who have fairly serious reading problems. It is set up for group instruction, and some of the Upswing tutors found it difficult to adapt for

TABLE 29

TUTORS' OPINION AS TO WHAT APPROACH WAS MOST USEFUL TO THEM IN TUTORING

(Percentages based on number of respondents in each city who answered the question; one in St. Louis did not.)

Preferred Training Approach	Number and Percentage of Respondents Who Expressed Each Opinion				Total
	Denver	Oxford	St. Louis	San Francisco	
Group	15/48%	13/30%	6/21%	4/27%	38/32%
Individual	5/16%	10/23%	14/48%	3/20%	32/27%
Both	10/32%	20/47%	9/31%	8/53%	47/40%
Neither	1/4%	0	0	0	1/1%
Total	31 100%	43 100%	29 100%	15 100%	118 100%

TABLE 30

TRAINING MATERIALS FOUND TO HAVE MOST VALUE BY UPSWING TUTORS

Material	Percentage of All Respondents Who Rated Material Most Useful
Peabody	28
Games, puzzles	15
DISTAR	14
Flash cards	9
Arts and crafts	9
Library and other non-textbooks	7
Workbooks	4
Exercises	3
Tokens	3
Chalkboard	3
Instructo	3
Tape recorder	2
Other	2
Total	100%

one-to-one instruction. DISTAR depends on rythmic oral repitition to establish sounds and words in a child's memory. It is highly structured, and the publishers stress that strict adherence to the program on a regular basis is essential. Generally DISTAR lessons are given daily rather than twice a week. Many Upswing tutors considered the program too rigid. The cost of these kits prohibited purchase of one for every tutor. One or two of each was kept in all Upswing schools. They could not be taken home by the tutors for preparation except by special arrangement. This was considered an impediment to using the materials, especially DISTAR, by many tutors.

"Instructo" is another commercially-developed kit used primarily in St. Louis (a few kits may have been purchased for use in Oxford). It includes picture cards, work cards, a flannel/chalk board combination, etc. Lesson plans (for group use) are provided, covering color recognition, development of sight vocabulary, initial sounds, etc.--the usual components of a beginning reading program.

The other materials listed in Table 30 are self-explanatory. The table gives the percentage of respondents (from all projects combined) that considered each the most useful *tutor-training* material. It is clear from the dispersion of opinion in Table 30 that the specific materials used as a springboard for training are not critical. Variety seems to have been the key for reaching Upswing tutors.

Attendance at Tutor Training Meetings

Tables 31 and 32 show the rates of attendance at training meetings held before and during tutoring. Attendance was consistently better before tutoring. The reasons for variation beyond that are not clear. Oxford is a special case, since Upswing was a university course and the majority of tutors were university students for whom attendance was more or less compulsory. San Francisco had the best preservice attendance rate with the fewest number of sessions and hours. However, San Francisco also had a better inservice rate than Denver, with more sessions. San Francisco held three inservice meetings in October, two in November, one in December and January, two in February and March, and one in April. Denver held only one inservice meeting each month from December through May.

TABLE 31

TUTOR ATTENDANCE AT PRESERVICE TRAINING MEETINGS

(Percentage based on number of tutors reported by each project to be in tutor group at time training was offered.)

Percentage of Training Tutor Attended	Tutors in Each Attendance Category, by City			
	Denver (total hours offered = 22)	Oxford (total hours offered = 8)	St. Louis (total hours offered = 15)	San Francisco (total hours offered = 6)
90%-100%	12/31%	34/74%	10/20%	39/95%
80%-89%	8/20%	9/20%	0	0
70%-79%	3/8%	2/4%	7/14%	0
60%-69%	5/13%	0	6/12%	0
50%-59%	3/8%	0	0	1/2%
< 50%	8/20%	1/2%	8/16%	0
0	0	0	19/38%	1/2%
Total	39 100%	46 100%	50 100%	41 99%*

* Rounding error.

TABLE 32

TUTOR ATTENDANCE AT INSERVICE TRAINING MEETINGS

(Tutors reported to have attrited before January 1, 1973, omitted.)

Percentage of Training Tutor Attended	Tutors in Each Attendance Category, by City		
	Denver (total hours offered = 10)	Oxford (total hours offered = 22)	San Francisco (total hours offered = 39)
90%-100%	7/15%	11/24%	4/14%
80%-89%	4/8%	17/38%	4/14%
70%-79%	0	7/16%	3/10%
60%-69%	9/19%	5/11%	4/14%
50%-59%	0	3/7%	6/21%
< 50%	20/42%	2/4%	8/27%
0	8/17%	0	0
Total	48 101%*	45 100%	29 100%

* Rounding error.

The amount of preservice training offered in Denver, with rather good attendance (about 80% of the tutors took part in 60% or more) may have something to do with the comparatively low attendance at the monthly inservice meetings. Denver had a better turnout for 22 hours of preservice training than St. Louis had for 15 hours. This may have occurred because the meetings in the former city were spread over a 4-6 week period in the fall, while they were concentrated into four 3-hour sessions in one week during the late summer in St. Louis, with a final 3-hour meeting on a Saturday morning shortly after school started. This is interesting since teachers seemed to give better attendance where meetings were concentrated rather than shorter and held over a longer time period.

On the whole, **attendance at training was not very good** (except in Oxford, as explained previously). It certainly **casts doubt on the value of investing time in development of an extensive training program** even without the earlier finding that trained tutors, as a group, are no more effective in helping children improve their academic performance.

The program in St. Louis was particularly unfruitful, with 38% attending no training meetings and an additional 16% attending less than half. From observation during a preservice site visit, it was generally *not* tutors involved in Upswing's first year who missed the sessions. Thus, St. Louis offered a real comparison group made up predominately of tutors who had little if any formal training. As shown in Section IV, the St. Louis tutored group of children improved as much as the tutored group in any other city.

CONCLUSIONS ABOUT THE EFFECTIVENESS OF TUTOR TRAINING

The tutors' questionnaire responses, and their attendance at training meetings, were the criteria for evaluating the effectiveness of training in the second year of Upswing. Under these criteria, it must be said that the programs were no better than 50%-60% effective. This rating has nothing to do with the quality of training offered. **Considerable time and effort were put into offering professional quality training responsive to the expressed needs of tutors.** The training in the second year generally was markedly higher in quality than that offered in the first.

It appears that people value training more in theory than in practice and perhaps want it to be available even if they do not take advantage of it. Along these lines, it appears that training may have been considered more important in the first year because half of the tutors in the program were excluded from attenting. It is clear that it does not pay to expend too much in training tutors, although some preparation is necessary.

Tutors seem to have definite ideas about what training they want, and they focus clearly on techniques--what to do with the child. They seem to prefer that discussions of theory be minimal, and tied to observation of children. They generally want very much to know how instruction is handled in the classroom and want to keep their efforts consonant. (There is a strong argument that "more of the same" in tutoring is not a good thing, especially when a child is having difficulty in class. However, the Upswing tutors and teachers most frequently seemed to support tutoring as a classroom back-up.) Such features as physical and social environment, training materials used, presentation format, and schedule seem to admit a good deal of latitude.

There was a reduction in the rate of tutor attrition from the first year to the second year of Upswing. It appears that this is attributable to the combined effects of bringing preservice training closer to the start of tutoring, conducting more extensive inservice training, and increasing the amount of regular communication between tutors and project staff. The relative contributions of the training program and the communications structure outside training are considered in the conclusion of this section. Attrition is considered separately in some detail in Section VI.

In summary, it appears that the training of volunteers need not be elaborate or expensive. The content of training is less important than the fact of training. Thus, training should probably be geared to the voiced needs of the volunteers themselves, concentrating training on solving inservice problems.

TRAINING/ORIENTATION FOR TEACHERS

It was prescribed that all projects provide at least 10 hours of teacher training, covering, as a minimum, the following topics:

- How to recognize minimal learning difficulties
- Techniques and materials covered in tutor training
- How to employ behavior modification (one of the training topics for volunteers).

There was no stipulation about whether any of the teacher training should be provided during tutoring. All teachers were paid about $50 for time spent on Upswing during the year. Table 33 shows the schedules for teacher orientation/training in the four cities.

Preservice

Before tutoring began, the projects:

- Defined the goals and organization of Upswing to teachers
- Explained Upswing research aspects, with special emphasis on the reasons for establishing a control group (which was found in the first year to be a very difficult concept for many teachers to accept)
- Explained what would be expected of teachers involved in the project:
  --Selection of children
  --Communication with and encouragement of tutors, and guidance/assistance to the extent guidance was needed and the teacher had the time and interest
  --In two of the four projects, attendance at meetings throughout the year
- Provided instruction/discussion/suggestions about how to observe children's behavior in a structured way and draw diagnostic conclusions about behavior
- Reviewed use of the Cegelka Academic Readiness Evaluation (CARE) as a screening aid in identifying learning difficulties in children.

Three of the four projects also discussed with teachers the principles and techniques of positive behavior management that tutors would be taught and encouraged to use.

TABLE 33

PROJECT SCHEDULE FOR TEACHER ORIENTATION/TRAINING

City	1972					1973					Total
	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
DENVER											
Preservice:											
No. of meetings		2	1	1							4 mtg
No. of hours		3	1	1							5 hr
Inservice:											
No. of meetings						1	1	1	1	Social get-together at each school	4 mtg
No. of hours						1	1	1	1		5 hr
Totals											8 mtg 10 hr
OXFORD											
Preservice:											
No. of meetings	1										1 mtg
No. of hours	8										8 hr
Inservice:											
No. of meetings		1	1								2 mtg
No. of hours		1	1								2 hr
Totals											3 mtg 10 hr
ST. LOUIS											
Preservice:											
No. of meetings			1								1 mtg
No. of hours			3								3 hr
Inservice:											
No. of meetings				No formal inservice training meetings; 1-2 informal social/discussion gatherings at some schools							
No. of hours											
Totals											1 mtg 3 hr
SAN FRANCISCO											
Preservice											
No. of meetings		2									2 mtg
No. of hours		5									5 hr
Inservice:											
No. of meetings		1	1	1			1			1	5 mtg
No. of hours		2½	2½	3			2½			2½	13 hr
Totals											7 mtg 18 hr

The initial interaction with teachers was done in one to four group meetings, with individual follow-up as needed in Denver, Oxford, and San Francisco. In St. Louis, staff visited each school to provide teachers individually with the information indicated above. A joint teacher-tutor meeting was held in St. Louis just before the start of tutoring to get acquainted, discuss the characteristics of children with learning difficulties, demonstrate Peabody materials, and review the completed readiness inventories and their implications for instruction.

Teacher Opinion About Preservice Training/Orientation

Teachers also received a "Registration and First Impressions" questionnaire (see Appendix B) that asked questions about the adequacy of the information they were given before tutoring began. Overall, their assessments were very favorable. The rates of response for this questionnaire were:

City	No. of Teachers in Project	No. of Teachers Who Returned Form	Response Rate
Denver	19	16	84%
Oxford	18	18	100%
St. Louis	15	11	73%
San Francisco	18	16	89%

Table 34 indicates the degree of positive response to specific questions about substantive elements (as opposed to organizational elements) of the preparation Upswing teachers received. On the whole, the projects were quite successful in providing teachers with satisfactory information. There were *comparative* self-perceived weaknesses in understanding of child selection parameters among teachers in Oxford and St. Louis. The pretest data indicate, however, that the Oxford and St. Louis teachers probably had as good a grasp on child selection parameters as the teachers in the other cities. The selection criteria were not particularly specific in any project.

TABLE 34

SUMMARY OF TEACHER OPINION ABOUT INITIAL TRAINING/ORIENTATION RELATED TO PROJECT GOALS, RESEARCH ASPECT, AND ROLE DEFINITION

Questions Asked	Number & Percentage of Respondents in Each City who Answered Positively				Total
	Denver	Oxford	St. Louis	San Francisco	
Have Project Upswing's goals been made clear to you?	16/100%	18/100%	11/100%	16/100%	61/100%
Did you have a clear understanding of what characteristics to look for in selecting children for Project Upswing?	16/100%	14/78%	9/82%	16/100%	55/90%
Do you understand why Project Upswing has a control group of children?	15/94%	18/100%	10/91%	14/88%	57/93%
Do you know which of your pupils are in the control group for Project Upswing	9/56%	17/94%	7/64%	13/81%	46/75%
Has the teacher's role in Project Upswing been made clear to you?	15/94%	17/94%	11/100%	16/100%	59/97%
Has it been made clear to you what the Upswing volunteers are supposed to do?	15/94%	17/94%	11/100%	16/100%	59/97%
Do you have adequate information about the materials and techniques the volunteers will be using?	14/88%	16/90%	10/91%	16/100%	56/92%

The other area where substantial comparative weaknesses appear is knowledge of which children were assigned to the control group. That is not an important training assessment criterion, although the evaluation needed to know how many teachers had that information. We would have preferred a blind or, better, double-blind experiment, but either would have required more testing than the project staffs or the schools could handle comfortably. Teachers in the first year were confused about the control group, and in a good number of cases, were disturbed because some pupils they referred did not get a tutor. Thus, it was decided to explain the use of controls explicitly and tell teachers which of their pupils were in that category. (The teachers should have known anyway if they remembered which of their pupils were tested for Upswing; apparently some did not remember.)

Table 35 presents questions about the adequacy of organizational information provided to teachers at the start of tutoring, with the percentages of positive response. In general, teachers were not as well informed about organizational matters as about substantive; still, the overall picture is reasonably good. The responses in Table 35 represent a great improvement over the first year.

Inservice

As noted previously, there was no requirement for the projects to offer an inservice program for teachers participating in Upswing. The San Francisco and Denver projects did; the Oxford and St. Louis projects did not. There were two meetings for teachers in Oxford right after tutoring began, but these are not regarded as inservice training since they covered mostly the same material as the preservice meeting. In at least one St. Louis school there were two social gatherings of Upswing teachers for informal discussion of the project; one took place at Christmas time and another during a visit by members of the evaluation staff. In all cities, the Upswing staff assigned to the schools as coordinators regularly checked with teachers to make sure there were no problems and to receive teachers' suggestions for the project.

The focus of the teacher programs in Denver and San Francisco were somewhat different. The Denver meetings (a one-hour session every month

TABLE 35

SUMMARY OF TEACHER OPINION ABOUT THE ADEQUACY OF ORGANIZATIONAL INFORMATION THEY RECEIVED IN PRESERVICE TRAINING/ORIENTATION

Questions Asked	Number & Percentage of Respondents in Each City Who Answered Positively				Total
	Denver	Oxford	St. Louis	San Francisco	
Did you know what days to expect the Upswing tutor(s) assigned to your pupils?	8/50%	14/78%	10/91%	12/75%	44/72%
Did you know what time to expect each Upswing tutor assigned to one of your pupils?	15/94%	18/100%	11/100%	13/81%	57/93%
Did you know what the procedure would be on the first day of tutoring?	12/75%	16/89%	9/82%	14/88%	51/84%
Were arrangements made in advance for tutoring space outside your classroom?	8/50%	18/100%	8/73%	15/94%	49/80%
Do you know whom to contact if you have a question or problem concerning Project Upswing?	16/100%	18/100%	10/91%	16/100%	60/98%

except December) were explicitly to provide a workshop-type experience. The teachers were asked to state what topics they wanted to cover in these sessions and to share ideas about materials and instructional approaches they had found useful. The teachers were not particularly responsive to this request and the amount of interest they displayed at the sessions was disappointing to project staff. Teachers apparently found monthly meetings burdensome, and the stipend apparently did little to make them feel better about this demand.

The San Francisco meetings were explicitly to inform teachers of the content of tutor training, to obtain teacher suggestions about what should be covered in tutor training and what the children needed in tutoring. In accomplishing its objectives for the teacher inservice program the San Francisco project provided some training, or review of training had elsewhere. Teachers, like those in Denver, did not, as a group, show any great enthusiasm for the meetings.

The San Francisco meetings, like those in Denver, were held after school. They were longer than the Denver meetings, generally 2-1/2 hours. Most took place toward the beginning of the project: four in September (three of those before tutoring began), one in October, and one in November. The teachers were brought together again in February and for a final session on the first of May. Such a schedule would not appear burdensome, except possibly in September. Still a significant proportion of the teachers indicated they felt there were too many Upswing meetings.

Teachers' Final Assessment of the Orientation/Training They Received From Project Upswing

Teachers gave their retrospective opinions about Upswing orientation and training on a "Final Impressions" questionnaire (copy in Appendix B). The response rates were:

City	No. of Teachers in Project	No. of Teachers Who Returned Form	Response Rate
Denver	19	19	100%
Oxford	18	18	100%
St. Louis	15	11	73%
San Francisco	18	18	100%

The data indicate, overall, that the projects were reasonably successful in realizing the stated objectives for teacher training. It is perhaps most interesting that the projects which held no formal meetings for teachers after tutoring began were rated about the same on most items as those which put comparatively much greater effort into conducting a program for teachers. However, the data also indicate that teachers in the cities with more extensive programs may have gained more in certain respects from their participation. Further, there is strong evidence that the formal programs for teachers resulted in learning gains for children.

Table 36 presents final questionnaire results that pertain to the substantive aspects of Upswing training. Ninety-two percent of all teachers valued the readiness inventory (the Cegelka Academic Readiness Evaluation, or CARE) they were trained to use as an aid in child selection. The small percentage differences from city to city are not significant, since about 90% to 100% of teachers in all locations considered the inventory useful. (The CARE was not evaluated by teachers in relation to any of the many other existing readiness measures. We believe they were responding favorably to the concept of using some such inventory of learning behaviors as an aid in identifying children's needs.)

There was a somewhat broader range of response to the question on adequacy of information about tutors' techniques and materials. The Oxford program may have been comparatively weaker, although not deficient, in describing them to the satisfaction of teachers. However, the percentage difference between Oxford and St. Louis or Oxford and San Francisco is not great enough to be very important in view of the numbers of people involved. The Denver program, which stressed instructional approaches, appears to have been stronger in putting across tutors' methods and materials, but here as well, one should not make too much out of 10% differences. The important point is that the projects apparently were successful in providing adequate information on this point.

Table 36 also shows that the teachers considered Upswing training moderately to very effective in helping them to work well with the tutors. The San Francisco project put special emphasis on clarifying the roles of tutor and teacher, with especially fine presentations on what each should expect from and give to the other. The Denver inservice meetings stressed

TABLE 36

TEACHER ASSESSMENT OF THE UPSWING TRAINING PROGRAM CONTENT

Questions Asked	Number & Percentage of Respondents in Each City who Answered Positively				Total
	Denver	Oxford	St. Louis	San Francisco	
Was the CARE used in identifying children with learning problems or potential learning problems?	17/90%	17/100%	10/91%	16/89%	60/92%
Did you have enough information about the teaching approaches and materials used by the Upswing volunteer(s) who tutored your pupil(s)?	17/90%	12/71%	9/82%	15/83%	53/82%
In general, were the Upswing meetings for teachers useful in helping you and the volunteer tutor(s) work well together?	12/63%	15/88%	9/82%	8/95%	53/82%

techniques for diagnosing and instructing to children's needs, which emphasis may have overridden the tutor-teacher relationship issue. Responses to the first questionnaire indicated that teachers there believed they had a clear view of their role and the tutor's at the start of the project (Table 34).

The questions presented in Table 37 were asked to discover whether any dissatisfactions with teacher orientation/training were caused by logistics or environmental factors rather than content. The most important finding was about frequency of meetings. There were more teachers dissatisfied in this respect in Denver and San Francisco, and all of them checked that they **felt there should be fewer meetings** (11 and 7 respondents, respectively). Two teachers in St. Louis thought there should be more meetings for teachers, while one in that city and one in Oxford thought there should be none. (Two respondents in Oxford and one each in St. Louis and San Francisco skipped this question.)

The teachers checked which, if any, of the last four items in Table 37 caused them to miss Upswing meetings. Only 18% said they found any of those aspects so distasteful as to cause them not to attend. The most commonly troublesome was schedule; three respondents in Denver, four in San Francisco, and one in St. Louis said the schedule prevented them from attending one or more Upswing meetings. Two other teachers cited location.

Table 37 shows that the Denver and San Francisco projects both were more successful in establishing a favorable group atmosphere, which would be expected since they had more opportunities to develop it. (The questionnaire item defined "social atmosphere" as "friendliness, opportunity to express your ideas, etc.".) However, neither social nor environmental conditions influenced decisions to attend, according to the questionnaire responses.

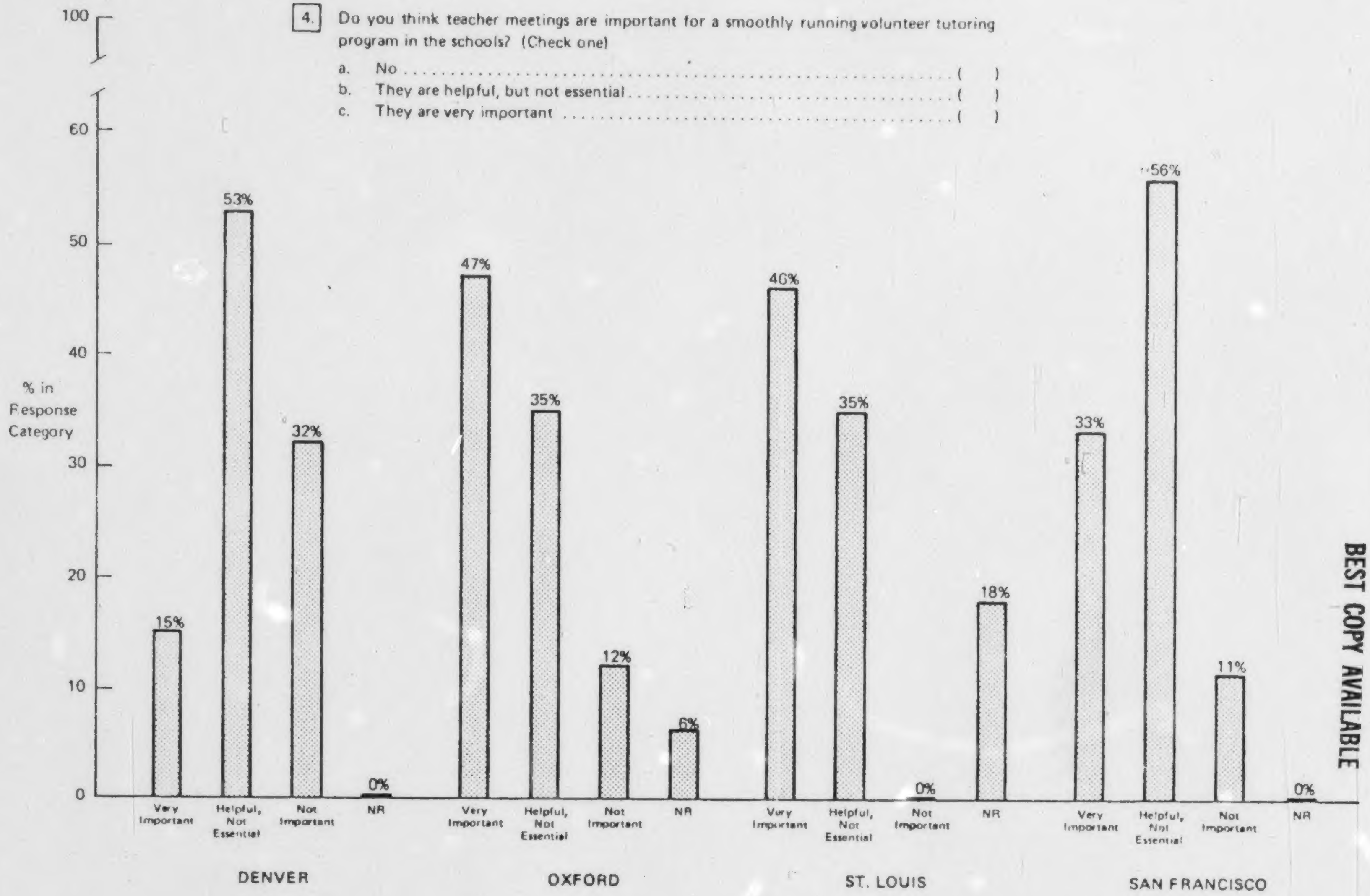
There was an interesting pattern of opinion about the importance of meetings for teachers in a project like Upswing. The fewer the meetings, the more important teachers thought they were (Figure 13). This trend apparently does not point to a trend of teachers wanting something they felt was lacking, since only two, in St. Louis, said they thought there should have been more Upswing meetings.

TABLE 37

TEACHER ASSESSMENT OF THE FREQUENCY, SCHEDULE, AND ENVIRONMENT OF UPSWING TEACHER MEETINGS

Question Asked	Number and Percentage of Respondents in Each City Who Answered Positively				Total
	Denver	Oxford	St. Louis	San Francisco	
Were you satisfied with the frequency of Upswing teacher meetings?	8/42%	14/82%	7/64%	10/55%	53/82%
Was the schedule of Upswing teacher meetings favorable?*	15/79%	12/71%	9/82%	15/83%	51/80%
Was the location favorable?*	14/74%	14/82%	9/82%	17/94%	54/83%
Was the physical environment favorable?*	18/95%	14/82%	9/82%	14/78%	55/85%
Was the social atmosphere favorable?*	19/100%	14/82%	9/82%	17/94%	59/91%

*Question not asked in the format presented here. The attributes were listed and teachers were asked to respond yes/no or favorable/unfavorable. (See "Teacher Final Impressions" questionnaire in Appendix B.)



4. Do you think teacher meetings are important for a smoothly running volunteer tutoring program in the schools? (Check one)

a. No . . . . ( )
b. They are helpful, but not essential . . . . ( )
c. They are very important . . . . ( )

FIGURE 13. TEACHER OPINION ABOUT THE IMPORTANCE OF TEACHER MEETINGS IN A PROJECT LIKE UPSWING

Figure 14 shows a similar pattern of opinion about whether teachers in general would be willing to attend meetings for a project like Upswing if they were not paid. Those who had more meetings to attend, more often considered pay necessary.

The foregoing evidence suggests that teachers tended to dislike having to commit time after school hours to Project Upswing. Nevertheless, there also were indications that the "medicine" of Upswing training had some good effects. Teachers were asked whether they thought participation in Upswing was beneficial to them professionally, and, if so, how. Table 38 shows their reasons. The differences in response pattern from city to city seem to reflect benefits of the inservice programs in San Francisco and, especially, Denver, where there was emphasis on offering teachers training per se.

From Table 38 the Denver project was rated beneficial in more ways by more teachers than any other project. The San Francisco project also clearly provided more teachers with new knowledge of instructional materials and techniques than the St. Louis or Oxford project.

In site visits, we noted that the St. Louis schools offer comparatively little in the way of individualized instruction; thus whatever information Upswing offered in that regard would be more meaningful there than in the other cities, where the schools seemed to put a good bit of emphasis on individualization. It should be noted that helping teachers themselves to individualize instruction was not a goal in any project; however, it was thought that increased awareness of the issue might result from involvement in a one-to-one tutoring program.

The high Oxford response on use of helping personnel may have a reason similar to the reason suggested for St. Louis's high response on individualization. Oxford was the only Upswing location in which the schools had never before had a volunteer program. Working with volunteers was a totally new experience for most Oxford teachers.

The most commonly valued aspect of Upswing participation was "additional understanding about how to diagnose specific learning needs." Observation indicated that this was stressed by all projects during the child selection period and that the use of the readiness inventory was important to teachers.

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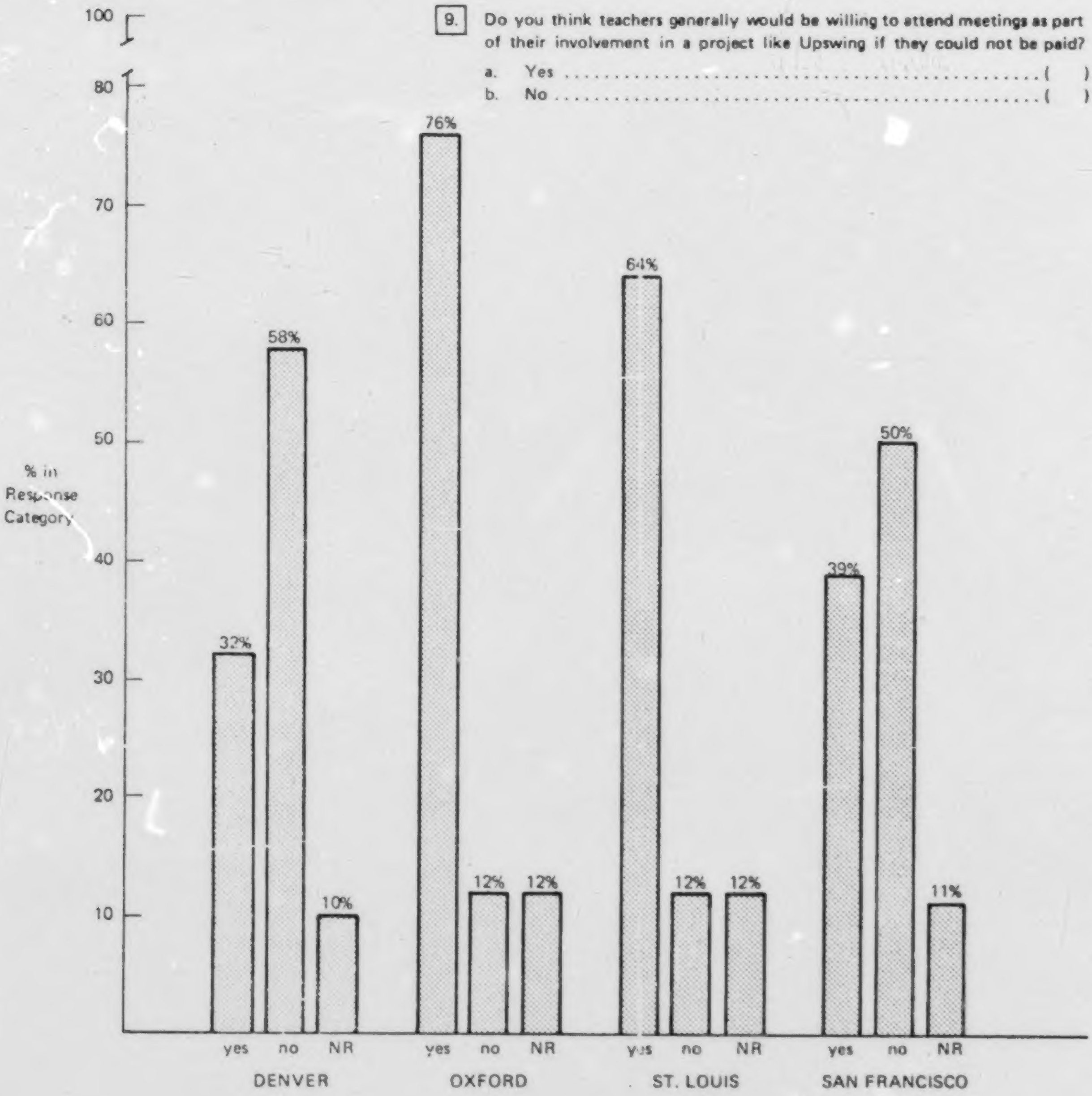

9. Do you think teachers generally would be willing to attend meetings as part of their involvement in a project like Upswing if they could not be paid?

a. Yes .... (   )

b. No .... (   )

FIGURE 14. TEACHER OPINION ABOUT WHETHER TEACHERS GENERALLY WOULD BE WILLING TO ATTEND MEETINGS FOR A PROJECT LIKE UPSWING IF THEY WERE NOT PAID

TABLE 38

TEACHER OPINION ABOUT THE PROFESSIONAL BENEFITS OF PARTICIPATING IN UPSWING

Type of Benefit	Number and Percentage of Respondents in Each City Who Checked Benefit (They were asked to "check all that apply.")				Total
	Denver	Oxford	St. Louis	San Francisco	
Acquainted me with a greater variety of instructional materials	11/60%	2/12%	3/27%	10/56%	26/40%
Acquainted me with additional teaching techniques	11/60%	2/12%	3/27%	8/44%	24/37%
Gave me additional understanding about how to diagnose specific learning needs	12/63%	8/47%	6/54%	8/44%	34/52%
Gave me greater insight into how to individualize instruction for my pupils	8/42%	7/41%	7/64%	4/22%	26/40%
Increased my ability to use helping personnel effectively	9/47%	13/76%	5/46%	6/33%	33/51%
Motivated me to further my education	6/32%	2/12%	2/18%	3/17%	13/20%

It appeared that, although teachers were familiar with the inventory concept and with many of the behaviors it included, many had not used such an instrument in structured observation of children. Another factor may have been that all projects made it a point to inform teachers of the results of the Upswing pretest battery (which was not done generally in the first year, to teachers' dissatisfaction).

Attendance at Upswing Orientation/Training

Tables 39 and 40 summarize project records on teachers' attendance at Upswing meetings before and during tutoring.[3]

Attendance was better at preservice training than at inservice, and generally was better where there were fewer meetings. The data suggest that attendance had little to do with the content of meetings and seemingly much to do with their timing during the year, their frequency, and, probably, the nature of the city. Oxford offered the most preservice training--8 hours (or 10 hours if one accepts the position that the two follow-up hours after tutoring began were more in the spirit of preservice training)--and Oxford was the only city with 100% attendance. Denver fared a bit better on preservice attendance than San Francisco, even though the former city held four sessions and the latter two for five hours of training. Table 39 shows roughly the same attendance rates for those two cities, but San Francisco had over three times as much inservice training as Denver. It could be that the same rates would have prevailed if Denver had held as much inservice training as San Francisco. However, based on questionnaire data presented previously, Denver teachers appeared to feel somewhat more burdened by the training requirement, even though considerably fewer hours were involved. It appears likely that this happened because San Francisco put more hours in at the beginning

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[3] We have said that there was no inservice program for teachers in Oxford. Two one-hour meetings were held at each school very shortly after tutoring began, and these are recorded in Table 33. However, because of the timing and content of these meetings, they were more in the nature of preservice training as previously discussed.

TABLE 39

ATTENDANCE AT UPSWING PRESERVICE MEETINGS FOR TEACHERS

Percentage of Training Teachers Attended	Number of Teachers in Each Attendance Category			
	Denver (five 1-hr meetings)	Oxford (one 8-hr meeting)	St. Louis (one 3-hr meeting)	San Francisco (two 2½-hr meetings)
90%-100%	10	18	9	12
80%-89%	6		0	0
70%-79%	0		0	0
60%-69%	1		0	0
50%-59%	0		0	0
< 50%	2		0	6
0	0		3	0
Total	19 100%	18 100%	12 100%	18 100%

TABLE 40

ATTENDANCE AT UPSWING'S INSERVICE MEETINGS FOR TEACHERS

Percentage of Training Teachers Attended	Number of Teachers in Each Attendance Category		
	Denver (four 1-hour meetings)	Oxford (two 1-hour meetings)	San Francisco (four 2½-hour meetings and one 3-hour)
90%-100%	6	18	7
80%-89%	0		0
70%-79%	6		3
60%-69%	0		0
50%-59%	3		6
< 50%	3		2
0	1		0
Total	19 100%	18 100%	18 100%

of the project and held longer meetings separated by greater time intervals. Another point about session length suggests itself: the teacher meetings were held right after school and teachers had to drive to them; if a teacher were delayed even a short time, there would not be much point in trying to get to a 1-hour meeting.

CONCLUSIONS ABOUT THE EFFECTIVENESS OF TEACHER ORIENTATION/TRAINING

The foregoing description of teacher orientation/training provides a framework for assessment of the projects' effectiveness in that activity. Two criterion areas were established for the assessment:

1. Effectiveness in training teachers to identify children with minimal learning difficulties in accordance with the Upswing parameters for the child population
2. Effectiveness in promoting good tutor-teacher working relationships.

Criterion 1

The measure of project effectiveness in training teachers to identify appropriate children was the initial characteristic of the children demonstrated on the tests in the Upswing battery. As described previously, the tests covered reading, basic experiences, and self-esteem. It has been noted that, in addition, the readiness inventory data were to have been used in this assessment, but its use did not prove to be feasible.

The test data indicate that teachers in all projects did select children in accordance with the basic Upswing parameters (potential for normal functioning in school, with one or more minimal learning disorders expected to impact school functioning in the absence of "treatment" that a volunteer tutor could reasonably be expected to provide). The pretest results were as follows:

- The children generally exhibited visual-motor integration skills at about the level expected at age five (exceptions: Denver and St. Louis control group children had a mean VMI age equivalent score of 5 years, 7 months). All but one of the Upswing children were over 6 years old, and about 60% were over 6-1/2. (The control group children tended to be younger than the tutored by a narrow margin.)

- The children tested quite low in basic experiences. The mean TOBE score for all children was in the 8th percentile.
- Scores on the "Funny Faces Game" (self-esteem measure) were predominately in the borderline range between average and low.
- Only about 25% of the children exhibited serious reading problems on the pretest. About 35% scored in the low-average range and about 40% tested as average readers for their ages.

Upswing was conceived as a project that focused on reading problems related to reading. Work on reading skills was to be the primary intent of tutoring. However, the selection criteria imply that just about any deficit qualified a child for Upswing tutoring, as long as it was not so severe as to require a specialist. As discussed in Section IV, it appears that the more visible difficulties were primary selection factors.

We do not wish to place too much emphasis on reading skills. Certainly reading problems are not the only justification for tutoring, but reading was set up as the primary criterion area for the evaluation of Upswing. Further, more significant gains were made in reading than in any of the other criterion areas which apparently were stronger selection factors. Thus there was some fuzziness in the definition of project purposes and activities that is difficult to clear away. Reading was the focus of efforts to help children, although it was not necessarily their area of greatest need. This was true despite the fact that Upswing emphasized the importance of looking at children as complete individuals and responding to learning needs of whatever kind as they arise. Perhaps child characteristics were believed to contribute to reading problems that in fact have no bearing on them; certainly, all of the variables measured in the Upswing evaluation proved to be orthogonal.

In any case, teachers in all cities did successfully select children according to the project requirements. Thus, the training they were given in how to select children was effective. It is another series of debates whether the selection criteria were overly generalized, whether the stated goals of the project were operative, and whether the child selection criteria were appropriate for the project goals. The Upswing approach to child selection reflects a view that nonspecific learning difficulties are relevant selection factors and, by extension, that one can help children to successful functioning in school without determining what aspects of school achievement are impacted by their behavioral symptoms.

The content of instruction on how to select children for the project was very similar from city to city and, as shown in the description of preservice training, the teachers perceived their understanding of selection parameters as good in all cities. (Roughly 80% to 100% said they had a clear understanding of how to choose children.) The format of presentation of this training apparently had little to do with its impact (i.e., whether teachers were informed individually, as in St. Louis, or in groups).

Criterion 2

The **measure of training program effectiveness in promoting good tutor-teacher working relationships** was the teacher assessment of the value of training in that regard, given in response to a questionnaire item. Overall, **82% of the teachers said that the orientation or training they received was helpful to them in working well with the volunteer tutors.** There were differences from city to city, with the lowest percentage of favorable responses from Denver teachers (63%) and the highest from San Francisco teachers (95%). The *comparatively* low assessment in Denver may have been related to dissatisfaction with the greater frequency of teacher meetings they were asked to attend and with a concomitant tendency (again, comparatively speaking) to consider teacher meetings less essential in a project like Upswing. (San Francisco teachers, however, tended to share in some negative feelings about the frequency and importance of meetings, although to a lesser extent.) Probably a more important reason for the difference in Denver was that teacher meetings there focused on how to work with children--identification of learning needs and appropriate instructional strategies. **In San Francisco,** on the other hand, **role definitions and expectancies were expressed,** and teachers' opinions about what the volunteer tutors should be doing were sought actively.

The data indicate that, on the whole, **teacher training resulted in improvements over the first year in teacher satisfaction with the tutor-teacher relationship.** (Tutors indicated satisfaction with the nature of the interaction but often wanted *more* of it.) **Tutors,** overall, **expressed need for more guidance from teachers** about as frequently in the second year as in the first, as will be illustrated shortly. Denver teacher training had a different focus; probably for this reason teachers saw it as having comparatively less impact on tutor-teacher relationships. (Thirty percent of Denver *tutors* indicated they would have preferred more guidance from teachers. However, in Oxford, where teachers rated their training comparatively high on promoting good tutor-teacher relationships, about 50% of the tutors said they needed more guidance from their pupils' teachers—it is a matter of which side is perceiving. One intervening factor is that as the tutor-teacher relationship grows, the tutor may see the teacher's time as increasingly valuable to her. Thus, as the relationship quality increases, the satisfaction with available time could decrease.

DESCRIPTION OF PROJECT MANAGEMENT AND COMMUNICATIONS STRUCTURE IN THE SECOND YEAR OF UPSWING

The project directors were free to set up any management and communications structure they wanted, but all adopted essentially the same approach. Figure 15 is a generalized management flow chart.

There were variations to the structure illustrated in Figure 15, but these were more in detail than essentials. In Oxford there was no school volunteer organization other than Upswing, and the school liaison staff all were graduate students in the university's Department of Special Education. In Denver an Upswing volunteer from the first year, who continued to tutor, was one of the liaison staff along with two graduate students. In addition, there was a "lead" volunteer tutor in at least one school. In San Francisco, the assistant project director was a school system psychologist who devoted part of her time to Upswing. In addition, there was a very active, full-time project administrative assistant, who served also as a liaison person in the schools. Also in San Francisco, the preexisting school volunteer organization took a much more active role than its counterparts in St. Louis and Denver. A representative of the San Francisco organization participated in Upswing

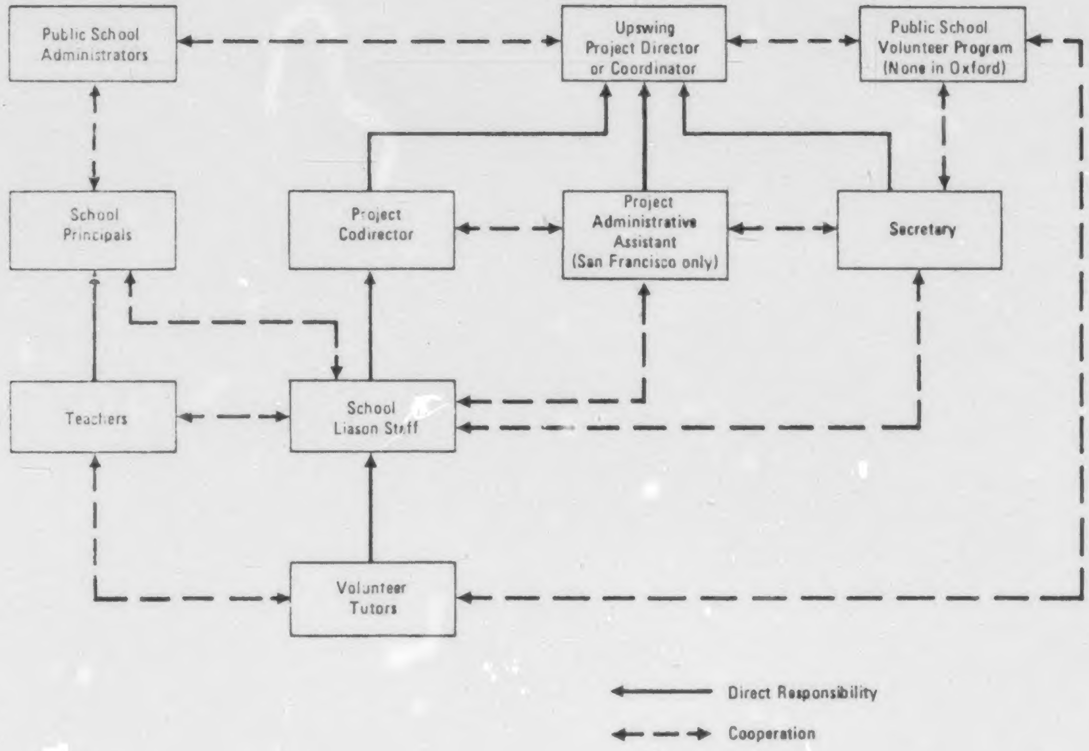

Public School Administrators
Upswing Project Director or Coordinator
Public School Volunteer Program (None in Oxford)
School Principals
Project Codirector
Project Administrative Assistant (San Francisco only)
Secretary
Teachers
School Liason Staff
Volunteer Tutors
Direct Responsibility
Cooperation

FIGURE 15. GENERAL MANAGEMENT STRUCTURE OF PROJECT UPSWING

planning and training meetings, called tutors about attending training meetings and to check on suggestions, problems, etc. In St. Louis, the assistant project director, as well as all other staff members, was a graduate student in the Department of Special Education. Responsibilities assumed varied with the personalities and expertise of the people involved, but despite such differences, the projects were more alike than dissimilar in management framework.

There were three essential management tasks in running Project Upswing--(1) start-up activities including agreements with the school system and the individual school administrators, defining needs for staff and the roles of individual members, hiring staff, the recruiting campaign, tutor and teacher orientation, organization and management of the child selection process and conduct of testing, etc.; (2) planning and conduct of ongoing training for tutors and teachers; and (3) supervision of tutoring activity in the schools.

The project directors, with varying degrees of help from key staff members, took major responsibility for start-up tasks and the training activities. As the project developed, staff generally took more and more responsibility for planning and conducting training, but the directors maintained leadership of formal training activities. Staff soon functioned independently in their school liaison roles except if difficult problems arose.

The essence of Upswing was the activity in the schools, and it appears that although some training is desirable to establish project identity and give tutors a feeling of competence, the training component can be a very small part of program activity. From a management point of view, a strong director seems essential at the beginning of the project, but this high-level person probably need spend relatively little time on it as staff in the schools take over routine activity. However, observation indicated that a readily accessible, informed central figure is necessary. The time demands on staff working in the school liaison function, however, remain fairly heavy throughout the tutoring period.

Figure 16 shows the general nature of management and communications during tutoring. Again, there were differences, but the similarities were stronger. Each project assigned staff to visit each school regularly to

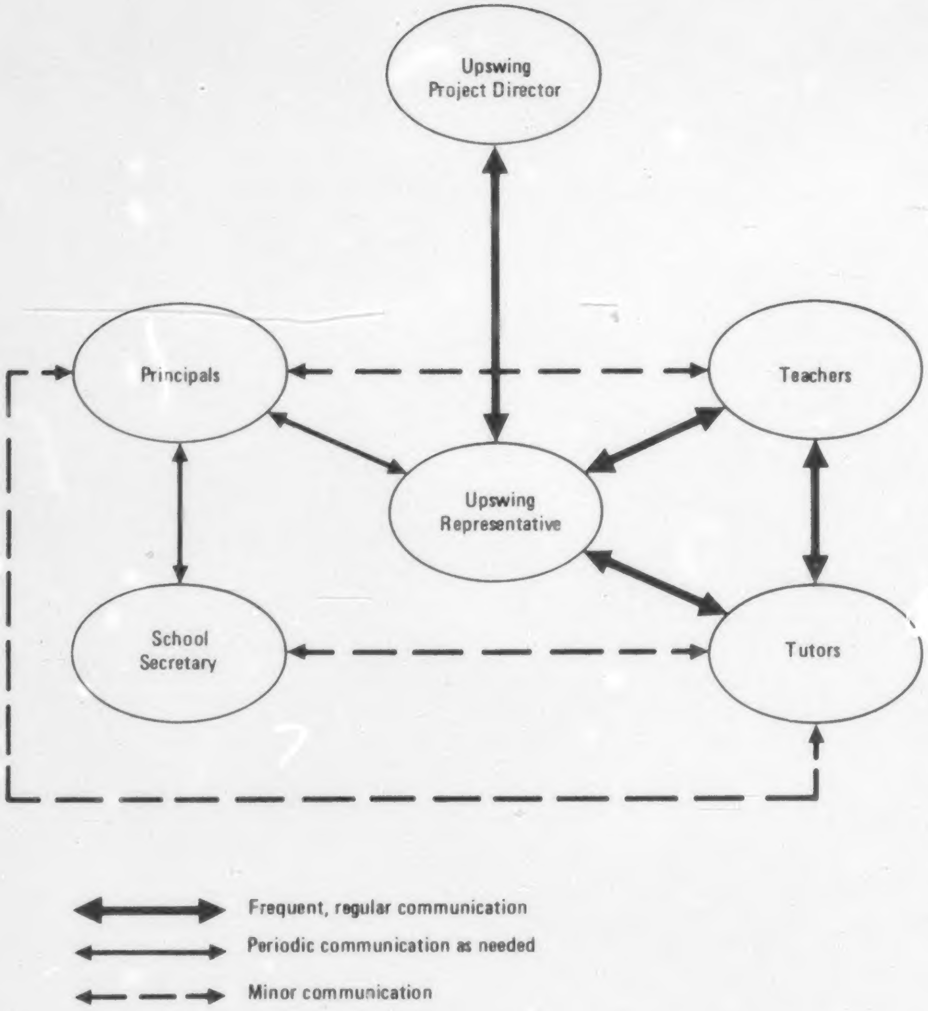

Upswing Project Director
Principals
Teachers
Upswing Representative
School Secretary
Tutors
Frequent, regular communication
Periodic communication as needed
Minor communication

FIGURE 16. GENERALIZED MODEL OF UPSWING MANAGEMENT AND COMMUNICATIONS IN THE SCHOOLS

assist tutors and check on attendance, to make sure project materials were in order, to resolve problems that might be of concern to teachers and principals, etc. The school liaison personnel were more deeply involved in some cities than others, but their basic function was the same everywhere--to be a responsible project representative, readily available to keep things running smoothly.

PARTICIPANTS' REACTIONS TO PROJECT COMMUNICATIONS IN THE SECOND YEAR

Tutors and teachers were asked questions related to project communications on their respective "Final Impressions" questionnaires. Their opinions about this aspect of Upswing are reported here, as well as general satisfaction with the project. Principals' reactions also were sought and are presented as the final elements of data for evaluation of Upswing training and management.

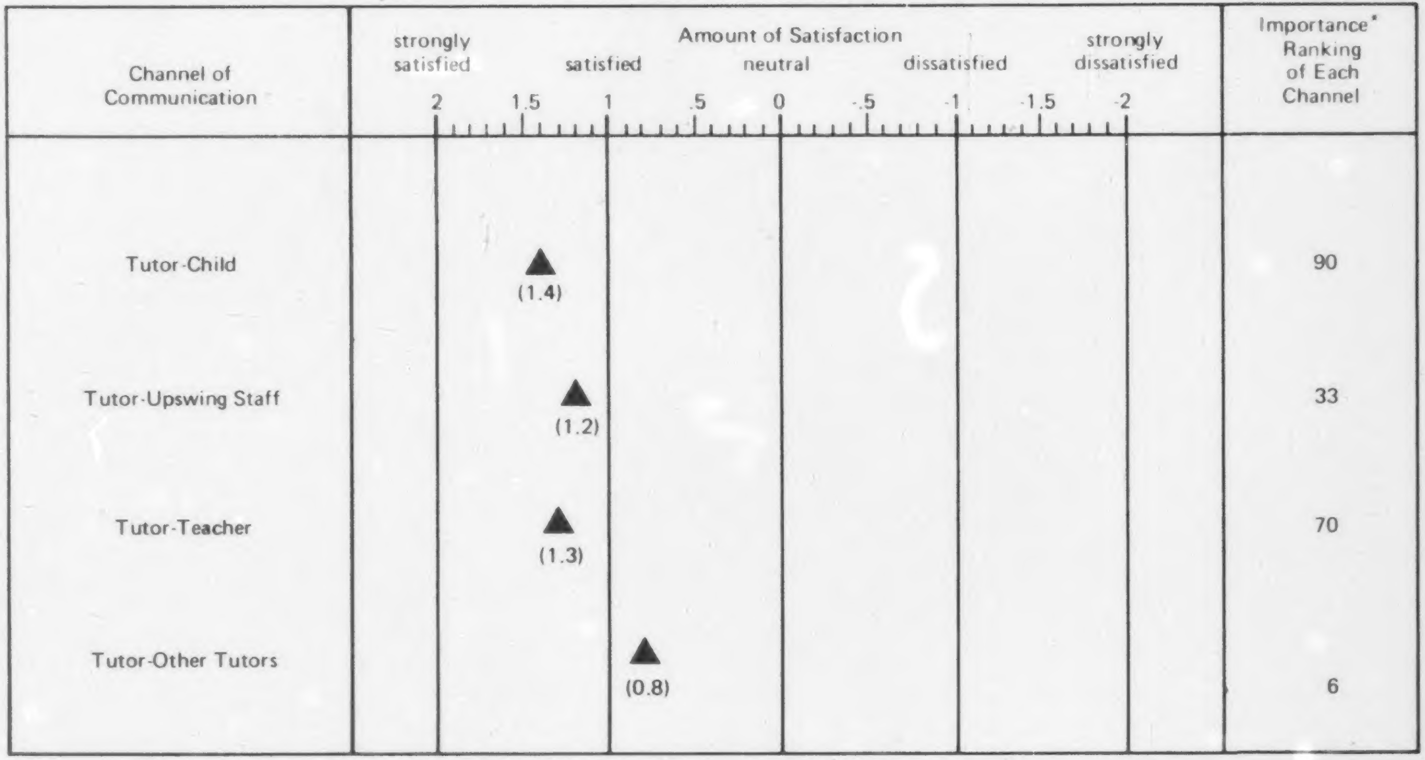
Tutor Opinion About Communication

Most of the tutors either said they were "satisfied" or "strongly satisfied" with the amount of communication they had with the Upswing staff, their tutee, the tutee's teacher, and other Upswing volunteers. San Francisco tutors who responded to the questionnaire seemed to be somewhat more satisfied in each of these categories than the respondents in the other three cities.

Substantial proportions of Denver, Oxford, and St. Louis tutors did have some difficulty with teacher communication. Comments from these cities indicated that tutors felt teachers did not provide enough feedback on the progress the children were making. Thus, tutors were concerned that they might not be progressing with the children in the best direction. About 30% to 50% of tutors everywhere but San Francisco wanted more teacher guidance than they received.

Figure 17 is a graphic representation of the mean satisfaction scores for each type of communication.

Tutors indicated which channels were most important to the Upswing process. They indicated clearly that communication with the child was most important; this was followed closely by communication with the teacher. Of lesser importance was communication with Upswing staff and of relatively little importance was communication with other tutors. The channel most in need of improvement is between tutor and teacher. The reason is probably a lack of time for talk on both parts. The solution will not be simple.



*The relative importance of each channel is ranked on a scale from 1-100, based on the frequency with which tutors selected them as most important.

FIGURE 17. TUTOR SATISFACTION WITH VARIOUS CHANNELS OF COMMUNICATION WITHIN UPSWING

By city, pupil communication was rated first also. But the second choice varied among the cities. Oxford respondents felt communication with Upswing staff was second in importance while respondents in the other three cities chose teacher communication.

Tutors' Overall Satisfaction With Upswing

About 90% of the tutors said they found their experience in Project Upswing satisfying or strongly satisfying. The split between the two degrees of satisfaction was virtually even for the project as a whole. There definitely was a greater degree of satisfaction expressed in Oxford, where almost 60% said they were strongly satisfied, and the remainder responded "satisfied." Only four tutors found the experience unsatisfactory (one out of 31 respondents to the questionnaire in Denver and three out of 15 respondents in San Francisco). Four others felt neutral about it (two in Denver and two in St. Louis.) Table 41 gives the responses by city and project-wide.

Cross-tabulated data indicated that satisfaction with communications of all kinds, satisfaction with the amount of guidance received from the teacher, and the tutor's perception of how much tutoring helped the child, were the most important determinants of overall satisfaction with the project. Comparison between neutral or dissatisfied tutors and those who expressed satisfaction is not meaningful because there were so few in the first category. However, the just-mentioned variables clearly had an impact on whether a tutor was generally "satisfied" or "strongly satisfied."

Teacher Opinion About Communications

Nearly all teachers were satisfied with the amount of interaction between them and Project Upswing staff (Table 42). As shown previously, teachers also generally considered their relationship with the volunteer tutors good, although there was less unanimity in this area.

When asked to rank forms of tutor-teacher communication in order of desirability from the teacher point of view, teachers showed considerable diversity of opinion. However, more were inclined to prefer informal, one-to-one interaction on an as-needed basis. There was some tendency for teachers to want to maintain control of this interaction (65% ranked teacher-initiated, informal one-to-one meetings as first or second choice, while 53% ranked tutor-initiated meetings of this kind as first or second). The other favored option was *regular* tutor-teacher meetings, again one-to-one. Eighty-four percent

TABLE 41

TUTORS' OVERALL SATISFACTION WITH UPSWING

(Percentages based on number of respondents in each city who answered the question.)

Degree of Satisfaction	Number and Percentage of Respondents in Each Category*				Total**
	Denver	Oxford	St. Louis	San Francisco	
Strongly Satisfied	10/32%	25/58%	12/43%	7/47%	54/46%
Satisfied	18/58%	18/42%	14/50%	5/33%	55/47%
Neutral	2/6%	0	2/7%	0	4/3%
Dissatisfied	1/3%	0	0	3/20%	4/3%
Total**	31/99%***	43/100%	28/100%	15/100%	117/99%***

*There was a "strongly dissatisfied" response option, but no one chose it.
**Two non-response cases in St. Louis omitted.
***Rounding error.

TABLE 42

TEACHER SATISFACTION WITH AMOUNT OF TEACHER/UPSWING STAFF CONTACT

(Other than in meetings)

Teacher Opinion	Number and Percentage in Response Category				Total
	Denver	Oxford	St. Louis	San Francisco	
Satisfied with contact	17/90%	14/82%	9/82%	18/100%	58/90%
Desired more informal contact	2/10%	2/12%	1/9%	0	5/8%
Staff contacted no more than necessary	0	1/6%	0	0	1/1%
No response to question	0	0	1/9%	0	1/1%
Total	19/100%	17/100%	11/100%	18/100%	65/100%

ranked this choice first, second, or third, but it was less favored than the as-needed options as first or second choice.

Teachers also were asked for an indication of their opinion about management and support of tutors in the schools by Upswing staff. Seventy-five percent considered the staffs' in-school activity the key reason for project effectiveness, while another 5% considered it useful but not essential. Table 43 gives a complete breakdown of the responses.

This question was asked to see whether teachers considered the school liaison role filled by someone outside the regular school staff as important as it was hypothesized to be. Principals were asked a similar question. The responses indicate that the liaison function as defined in Upswing was critical in the opinion of most school personnel involved.

Teachers' Overall Satisfaction With Upswing

Overall, teachers indicated about the same level of satisfaction from their involvement in the project as tutors. Eighty-nine percent either were "satisfied" or "strongly satisfied," with about an even split between these two responses (Table 44). San Francisco and Oxford teachers expressed somewhat lower satisfaction than those in Denver and St. Louis, but these possible differences are difficult to interpret in view of the small numbers involved. Level of satisfaction with Upswing was not related to opinion about the effectiveness of tutoring in helping children. Only two teachers considered tutoring ineffective, and both of them said they were *strongly satisfied* with their experience in Project Upswing. The data from teachers did not indicate the primary contributors to high satisfaction as did the tutor data.

Principals' Opinions About Project Upswing

The principals of the 19 schools that participated in Upswing's second year also were sent a questionnaire at the end of the tutoring period (copy in Appendix B). All 19 returned the form. The overall impression gained from the questionnaire responses was that the principals were enthusiastic about Project Upswing and were anxious to see it continue. One-to-one tutoring was seen as having "great potential" for helping children overcome learning difficulties by 18 of the 19 respondents and as having "moderate potential"

TABLE 43

TEACHER OPINION ABOUT INDIVIDUAL SUPPORT GIVEN TO UPSWING TUTORS BY PROJECT STAFF

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Teacher Opinion	Number and Percentage in Response Category				Total
	Denver	Oxford	St. Louis	San Francisco	
It is the reason for Upswing's effectiveness	14/74%	9/53%	9/82%	17/94%	49/75%
It is useful, but not essential	3/16%	0	0	0	3/5%
It is not needed	0	0	0	0	0
It is detrimental	0	1/6%	0	0	1/1%
Individual support by someone other than that school's personnel is needed, but the support given by the Upswing staff was not effective	1/5%	1/6%	0	0	2/3%
I don't know	0	4/23%	2/18%	1/6%	7/11%
No response to question	1/5%	2/12%	0	0	3/5%
Total	19/100%	17/100%	11/100%	18/100%	65/100%

TABLE 44

TEACHERS' OVERALL SATISFACTION WITH UPSWING

Degree of Satisfaction	Number and Percentage of Respondents in Each Category*				Total**
	Denver	Oxford	St. Louis	San Francisco	
Strongly Satisfied	10/53%	6/38%	6/55%	5/31%	27/44%
Satisfied	8/42%	8/50%	4/36%	8/50%	28/45%
Neutral	1/5%	2/13%	0	2/13%	5/8%
Dissatisfied	0	0	1/9%	1/6%	2/3%
Total**	19/100%	16/101%***	11/100%	16/100%	62/100%

*There was a "strongly dissatisfied" response option, but no one chose it.

**Three nonresponse cases omitted, one in Oxford and two in San Francisco.

***Rounding error.

by one. The 18 assessed teacher attitudes toward the project as "positive" to "very positive." The major problem seemed to be space for tutoring.

The questionnaire included a check on whether Upswing training and management practices would give Upswing tutors preferred status. The principals' endorsement of volunteer tutors was not restricted to Upswing; however, all but one said they welcomed volunteer tutors in general. Reservations were expressed about high school student tutors and untrained tutors.

Training and Supervision. Almost all of the principals considered training essential for tutors, and Upswing training was assessed as high in quality. The inservice approach was endorsed.

The Upswing staff's individualized support to tutors in the schools was considered the key reason for project effectiveness by 16 of the 19 respondents, and useful although not essential by two. One principal felt that the Upswing staff did not do a good job, but someone other than regular school personnel is needed to perform this function. Six principals said they did not believe a program like Upswing could be run at all on an individual school basis, while 11 thought it could be done if funds were available for additional staff to conduct training and supervise tutors, as well as for materials.

Improvements From the First to Second Year. All but one of the principals participated in Upswing both years, and 11 noted improvements in the second year. It was observed that the tutors seemed more confident, better prepared, more organized, more interested and conscientious, and more dependable. These opinions were expressed by principals in all four cities. Principals from St. Louis, San Francisco and Denver found an increase in the supervision by the Upswing personnel working with the teachers and tutors. Principals in San Francisco, St. Louis, and Oxford reported increased enthusiasm among teachers for the Upswing tutors and/or better rapport between tutors and teachers during the second year of the project.

Principals registered the most unanimous enthusiasm for Upswing of any participant group. Comments included at the end of the questionnaire touched upon the high caliber of the Upswing tutors, the rapport established between tutors and teachers, and the enjoyment that the participating children received from the added attention given them. A quote from one of the St. Louis principals sums up the prevailing attitude: "[I have] nothing to add but positive thoughts and feelings about the Project."

CONCLUSIONS ABOUT THE EFFECTIVENESS OF MANAGEMENT AND COMMUNICATIONS IN UPSWING

Although there are ambiguities in assessing any social system, general principles can be accurately evaluated. In the case of Upswing, a clear pattern has developed. The project is perceived as desirable, effective, and useful, and these qualities are closely associated with the unique way in which the project was run. Great responsibility was delegated to the building-level coordinators. Much of the activity in Upswing was almost autonomous, but run in cooperation and communication with the teachers and the system. The management system is so flexible that Upswing has been able to adapt to each school's unique needs and problems. Vast differences in attitude and environment found at schools within the same system are not unusual. They do, however, present a problem to volunteer programs which are centrally organized (as many are). Close, continuous communication between Upswing personnel and school personnel appear to have been essential to effective management.

It is apparent that the person who is given responsibility for coordinating volunteers in each school should be sensitive to the political realities that affect teacher and principal attitudes. This sophistication appears to have been a very important factor in keeping Upswing a minimal burden on the schools. Because school personnel apparently were able to see Upswing as a small effort for large return, the attitudes of teachers and principals seem to have grown steadily more positive.

VI. THE PROBLEM OF ATTRITION

Upswing, like all volunteer programs, had the inherent problem of attrition. This section of the report uses the Upswing experience as a base for discussion of what level of attrition can be expected under various circumstances, and presents some ideas on how to compensate for the problem.

WHAT TO EXPECT

The average Upswing Project can expect to lose 20%-40% of its original trained volunteers by the end of the school year. Attrition is influenced by many environmental and personal factors, from moving to lack of motivation. These can be classified into two major areas: attrition that can be anticipated, compensated for, and to some extent controlled; and attrition beyond project control. The Upswing experience indicates that about 30% of attrition will be in the former category and about 70% will be uncontrollable for an average program.

Early Losses

In the Upswing projects that depended on adult volunteers from the community, a large number of people who agreed to participate dropped out before tutoring began. This was especially true in the first year, when there was a lengthy delay between orientation/preservice training and the start of tutoring. Even without such a delay it would be wise to anticipate that probably 25% to 50% of the people who show initial interest will not begin tutoring. Evidence suggests that about 10% of the people who begin training can be expected to leave for reasons associated with dissatisfaction with training or the project management. Such problems as the training schedule, transportation, training too simple or advanced, poor instructions or guidance, etc., have been voiced by volunteers. An awareness of such attitudes on the part of the project manager can significantly improve retention of volunteers.

Attrition After Tutoring Begins

Roughly 20% of beginning tutors can be expected to drop out of the program completely some time during the school year. In addition to these true "dropouts," a number of tutors appear to have dropped out for several short periods during the year, but returned to the pupil. Such activity was not reported until too late to document reasons. Accepting the premise that if a volunteer fails to meet the child for more than one-half of the appointed times he is not an active volunteer, fully 50% of the original volunteers can be expected to be lost or go inactive by the school year's end.

Much of the gradual attrition is attributable to moving and job acquisition, or the ambiguous "personal problems." These do not appear to be areas of loss over which the project manager can effectively exert control.

Heavy use of college student tutors (perhaps younger students as well) changes the picture entirely and seems to make management of attrition much simpler. For example, Oxford, which used many students in the project had virtually full control of attrition. All of the people leaving the project did so according to schedule in December. The loss was expected, and plans were made to compensate for it. In this case attendance was controlled through the granting of college credit to students who faithfully completed a full term of tutoring. The loss came at the end of the quarter when students left or changed schedule.

PLANNING AHEAD

It is clear that an effective Upswing project must foresee attrition and compensate for it. Each of the four cities in Upswing did this with varying degrees of success. One of the major problems was that of preparing new recruits to enter the project midstream (a problem that was compounded because the evaluation needed consistent treatment of tutors with regard to training, at the city level, for clarity of findings.) This was approached in several ways. For example, videotape was used to record the original lessons. This was not highly effective because of the length of tapes (videotape is very expensive and difficult to edit) and the lack of a chance to respond. Sometimes the nonprofessional quality of the tapes was a further drawback. In one case the new recruit viewed tapes with the presence of an instructor from the Upswing staff. This was a clear improvement, as it allowed interaction based on the taped material.

In other cases new volunteers were given a brief overview, with no attempt at full coverage of the preservice training. No evidence points to the need for extensive tutor training. It appears that orientation with a minimal amount of inservice training, preferably more toward the beginning of tutoring, would be effective. In fact, orientation-only evidently is sufficient if adequate supervision in the schools is provided. Perhaps the ideal plan is to have a continuous program of recruitment and orientation so that Upswing can maintain a smooth continuity of service to the children.

VII. COST ANALYSIS

This section very simply describes the basic expenses in Project Upswing's second year. The data do not provide a foundation for detailed analysis; further, pilot study costs under a fixed grant arrangement do not necessarily give a true picture of what the project might cost in another framework. In fact, since there appear to be only a few required features of Upswing, costs could vary greatly, depending on local circumstances and the preferences of those setting up the project. Even under the fixed grant, (each project had about $30,000), allocations of funds differed considerably from city to city.

Ultimately, it must be left to the educational planner to weigh the benefits children derived from Upswing and decide if it is a competitive alternative for providing special help to children. This decision would be helped by comparison of the cost (as estimated for local conditions) and results of Upswing with the cost of remedial reading or with the cost of alternatives for boosting children's self-esteem or experience base (where such alternatives exist and their costs can be specified). An estimate like cost per unit of mean gain per child, as illustrated here, should suffice. It also should be noted that the characteristics of the project and therefore its budget should depend on what one wants it to accomplish. It appears that if benefits to tutored children are the sole concern, then a model such as that used in St. Louis during the second year would be appropriate, and it could cost considerably less than it did in the pilot project framework. However, if one is interested in the kind of generalized benefit observed in the other three cities, it seems necessary to train teachers or provide some mechanism for strong teacher involvement. The project would then cost more, and it may be that Upswing is not the best way to modify the school environment so as to achieve the generalized effect. Other factors might also be considered in the decision to use or not use Upswing--as one example, the benefit to the school system, to society, or both, of increasing the number of opportunities for community service. We cannot be exhaustive here, but these are some of the kinds of questions that would be in order in making a decision about whether to adopt a program like Upswing.

METHODOLOGY AND DATA SOURCE FOR THE COST ANALYSIS

Each of the four projects sent ORI a cost breakdown (see Appendix B) for a copy of cost report form). The breakdown included estimates of percentage of time spent on various activities required to run Upswing, the cost of materials, miscellaneous expenses incurred during the year, etc. The total cost incurred for each activity was then distributed among the following:

- Trained tutors who remained active
- Trained tutors who dropped out
- Teachers who remained active.

Tutor costs were calculated on the basis of number who were involved in the project at the time the costs were incurred. Teacher costs were based on the total number of teachers trained, since very few left during the year.

THE COST OF A TUTOR IN EACH PROJECT

Table 45 presents the expenditures made in training and assisting one tutor in each project during the 1972-73 school year. Denver and Oxford spent approximately the same amount, while St. Louis and San Francisco spent more per tutor. The latter cities would have had lower costs if they had filled their goal quota of 50 volunteers per city, and if they had experienced less tutor attrition. In all cases, the greatest expenditures were for training and for supervision/assistance provided to tutors.

TABLE 45

COST OF ONE TUTOR WHO WAS IN PROJECT UPSWING FOR THE ENTIRE YEAR

Cost Category	Denver (40)*	Oxford (47)*	St. Louis (32)*	San Francisco (32)*
Recruiting	$ 31	$ 19	$ 60	$ 55
Preservice training	$ 59	$ 19	$ 51	$ 64
Inservice training	$ 98	$ 63	$ 88	$153
Supervision & assistance	$ 74	$ 60	$ 92	$166
Running project	$151	$317	$255	$301
Materials	$ 24	$ 13	$ 22	$ 26
Other	$ 10	-	$ 8	$ 1
Total	$447	$491	$576	$766

*Weighted average of the number of tutors during the 7-month span of the project.

COST TO LOSE ONE TUTOR DURING THE YEAR

Training tutors who end up not tutoring is an expensive proposition. The cost-effectiveness of an Upswing program is definitely impacted by attrition. Tutors left Project Upswing for various reasons throughout the year. Table 46 indicates the cost of losing one volunteer in each city. The cost of attrition was lower in Denver than St. Louis or San Francisco. Denver only lost five volunteers whereas the other two cities lost 18 and 15 volunteers, respectively. The cost of attrition in Oxford was considerably lower than in any of the other three cities because tutors there tended to be lost early in the project and training as well as supervision costs were spread evenly over the year. The other cities' losses were distributed through the year, and there tended to be heavier outlays at the beginning.

Interpreting the meaning of lost volunteer costs can be difficult. Costs increase the longer the person remains in the program before leaving, but consider the services performed by the late dropout. A large number of early dropouts can be disastrous because they cost, but give little or no service. Table 47 shows that Oxford's costs were the lowest; they got about 2-1/2 months service for $72, or about $37 a month per person. Denver, on the other hand, averaged roughly 4 months service or about $90 a month per person. St. Louis paid more than $175, while San Francisco paid about $121 per month for each dropout. Table 47 provides a quick comparison of the cost per month for both dropouts and "stay-ins." Attrition was quite expensive, except in Oxford, which planned its attrition carefully and actually appears to have profited from its dropouts. This appearance, however, is at least partly attributable to the university's bearing some of the cost of training, since Upswing constituted a university course. (For example, the meeting room was free.) The cost of recruitment was lower as well because a large number of the tutors were obtained from among the students of the School of Education. Thus, public media did not have to be relied upon so heavily.

COST TO TRAIN ONE TEACHER FOR PROJECT UPSWING

As the city models have indicated, teacher training varied considerably. From Table 48, Oxford spent less to train and provide liaison with teachers compared to the other three cities. There were two reasons for this:

TABLE 46

COST OF ONE TUTOR WHO DROPPED OUT OF PROJECT UPSWING DURING THE YEAR

Cost Category	Denver (5)*	Oxford (12)*	St. Louis (18)*	San Francisco (15)*
Recruiting & pre-service training	$ 90	$ 38	$111	$119
Inservice training	$ 98	$ 8	$ 89	$120
Supervision & assistance	$ 58	$ 8	$ 69	$130
Running project	$119	$ 38	$258	$236
Total	$365	$ 92	$527	$605

*Number of tutors lost during the 1972-73 school year.

TABLE 47

THE AVERAGE MONTHLY COST OF TUTORS

Category	Denver	Oxford	St. Louis	San Francisco	Mean per Month
Average number of months service for tutor dropouts	4	2.5	3	5.5	-
Average cost per month for tutor service by:					
Non-dropouts	$63	$70	$82	$109	$81.0
Dropouts	$91	$37	$175	$121	$106.0

TABLE 48

TEACHER COSTS IN PROJECT UPSWING

Cost Category	Denver (19)	Oxford (18)	St. Louis (15)	San Francisco (18)
Preservice orientation, training, (staff, guest speakers, facilities, etc.)	$130	$57	$123	$278
Inservice training	231	31	210	124
Liaison activity in schools	127	65	131	250
Stipends	55	57	67	60
Materials (office, supplies, reprints, film, videotape used in training, etc.)	3	13	13	-
Equipment (projector, coffee-making equipment, etc.)	4	-	-	-
Overhead	-	6	-	-
Total	$550	$229	$544	$712

- There were only two public elementary schools in the Oxford project, which cut costs on staff interaction with teachers (the other cities averaged five to six schools).
- Less extensive training was given teachers in Oxford than in Denver or San Francisco.

The highest teacher costs were in San Francisco. Preservice training and liaison activity were more expensive there because of the salary levels of personnel involved. The San Francisco project paid for the services of a university faculty member to help with preservice training. One of the staff members responsible for school liaison was a school system psychologist who served half time as assistant Upswing director. The other staff member responsible for school liaison was the full-time project administrative assistant. The other projects used graduate assistants earning half- or quarter-time stipends for the school liaison work.

Teacher training costs in St. Louis are somewhat puzzling. They are roughly equivalent to the costs in Denver, where a great deal more work with teachers was done. The activity in St. Louis was much more like that in Oxford, with one preservice orientation meeting (8 hours in Oxford and 3 hours in St. Louis) and no inservice activity except at the individual school level. It should be remembered that the cost data represent rough allocations of a fixed budget which vary in accuracy according to the time spent preparing the allocation and the precision of local recordkeeping.

COST TO UPGRADE CHILD PERFORMANCE ON WRAT

Perhaps the most interesting way of looking at Upswing's cost is in terms of how much the gains cost. Table 49 gives a brief rundown of the wide range of cost from $33 to $89 per WRAT standard score point per child. The standard score increase indicates improvement beyond the expected level of performance.

POTENTIAL FOR COST REDUCTION

Since Project Upswing was designed to be flexible, one would expect costs to vary according to location and conditions. More important, one would expect costs per child served to vary according to the management

TABLE 49

THE RELATIVE COST OF POINT GAINS ON THE WRAT BY CITY FOR POOLED TUTORED AND CONTROL GROUPS

City	Total Children	Score Mean Δ↑ Points	Total Cost (in thousands)	Cost/Child/Point
Denver	82	9	$31.6	$43
Oxford	94	10	30.8	33
St. Louis	83	6	32.4	65
San Francisco	64	6	34.2	89
Total	323	-	129	-
Grand mean	-	7.75	-	$58

expertise, etc. The findings in this cost analysis, however, are distorted by the fixed funding level of each project. The artificial level of just over $30,000 caused great fluctuations in the per-child costs depending on the number of children served. Further, the findings are misleading because of the added cost of high-level administration personnel not required (at least not full-time and probably not even half-time) after the program becomes operational.

Evidence indicates that through the use of volunteer help to run portions of an Upswing program, use of token payments to training people and a single, carefully chosen paid administrator, Project Upswing could be run for less than $14 per child per month if 150 children were served. It would be possible for two or more small communities to cooperate on an Upswing program to save money. Considering that about 20% of the average class usually falls into the definition of an Upswing child, there would have to be about 750 first-graders in a community to require a full-time administrator. Smaller communities could, by not using a full-time administrator, keep costs to a bare minimum.

VIII. CONCLUSIONS AND RECOMMENDATIONS FROM THE UPSWING EVALUATION

CONCLUSIONS

This section has three parts. First, major conclusions from the two years of Upswing are reviewed. Then recommendations about the future of Upswing are put forward. Finally, the experience suggests recommendations for further research--some that have to do with evaluation of Upswing-type programs and some that have to do with other issues that arose from the Upswing data. These recommendations are stated briefly in hopes that they may be useful to educational research planners and practitioners.

> *Upswing tutoring was effective, and the project seems to have given unexpected benefits beyond the good of tutoring.*

Upswing developed in such a way that it had two results--one intended and one a byproduct. The two-year experience indicated that tutoring does help the children who receive it, and the tutors who give it, to an important degree. The experience also indicated that a project like Upswing, under certain conditions, can extend its impact to teachers and through them to children who do not receive tutoring. The tutored groups of children in the first year made significantly greater gains in reading than did the untutored comparison group. In the second year, tutored and untutored alike demonstrated clear progress in reading and in development of self-esteem and basic experiences.

The project's goal was to help children realize their potential for normal functioning in the skill areas studied. The test results indicate this goal generally was accomplished in the areas of reading and self-esteem. End-of-year test means in both areas were in the average range, whereas at the beginning of the year the mean scores were in the low-average or borderline range. The children had farther to go in terms of basic experiences and did not pull up to average, but they did make significant progress in this area.

The gains of control group children in the second year have been attributed to Upswing, with teachers as the agents. The project greatly strengthened its efforts to involve teachers in the second year, and it appears that teachers related differently to at least the Upswing control group children because of the influence of the project. It is impossible to say what portion of the teacher effect is attributable to Upswing training in itself. We would guess that little is, based on the findings about the effectiveness, as measured by child progress, of tutor training. However, it was intriguing (and rather shocking) to find that 60% of the teachers who returned evaluation questionnaires said they had no training in child development other than that received in Upswing (all of which was provided in the second year).

With regard to the *amount* of progress measured in the evaluation--it was modest, but indicative of significant growth. The test data behaved well and appear to represent true effects. Other studies have reported more dramatic gains under tutoring, but we tend to be wary of accepting such findings. Enormous strides may well be made by some individual children; this happened in Upswing. On an aggregate basis, however, such large gains seem questionable.

Sometimes amount of progress has to do with tutoring goals. If, for example, the goal is to help children overcome deficiency in recognizing vowel sounds, one can anticipate great success from a program of one-to-one drill over a few weeks. The subject matter of tutoring is quite limited; if the pre- and post-tutoring measurement device directly addresses the subject matter that was covered in tutoring, a high level of accuracy on the post-tutoring test would be quite reasonable except among children with certain types of learning problems. Upswing's goal for reading was much broader, and a multitude of nonspecific deficiencies were being addressed. Further, the measurement device was a standardized instrument. Tutoring was not measure-referenced; rather, the attempt was to help children acquire skills that could be generalized. In these circumstances, the amount of mean progress demonstrated in Upswing seems both reasonable and quite heartening. We do not assume that volunteer tutors generally work miracles where the professionals have failed, although with the right timing and a fortuitous combination of personalities, "miracles" have been wrought in tutoring as well as in the classroom.

Does Upswing tutoring work? The data indicate that it does in the areas of reading, self-esteem, and basic experiences. The only area studied in which tutoring did not appear to have appreciable impact was visual-motor integration; although there was a glimmer of improvement in the second year. Beyond these basic questions, the evaluation yielded several most interesting findings. These will be reviewed before recommendations for the project and for further study are made.

The attributes studied in Upswing developed independently of each other. None was a catalyst. Children experienced different amounts of success in different areas.

The Upswing children tended, at the beginning of the year, to show low skills in all criterion areas. However, the initial associations are misleading in that *development* in the various areas seems to go on independently. In other words, the criterion variables were orthogonal. Other researchers appear to disagree; they have found rather strong associations. The TOBE and the VMI documentation cite correlations on the order of 0.4 to 0.5 between those measures and reading measures. An r of about 0.3 was obtained between the TOBE and the introversion-extroversion scale of the Classroom Behavior Inventory (Earl S. Schaefer). The difference in findings probably is attributable to two conditions:

1. The Upswing evaluation looked at amount of *change* while the test developers cited looked at actual scores at a given point in time.

2. There were considerable differences in the operational definitions (measures) used.

Knowledge of the amount of association in terms of change or development would seem to have more utility in helping children, but the necessary measurements are more time-consuming to obtain and more complicated in interpretation. Thus, the development approach often is not used.

Probably most people in education and educational research believe that there is an association between school achievement level and self-esteem. The Upswing data do not belie this; they simply indicate that development of self-esteem can go on, or may not go on, regardless of a child's academic development. Individually, Upswing data are not conclusive, but the overall pattern is clear, that significant improvement in self-esteem will occur with personal attention from someone the child perceives as important in the given environment (be it tutor, teacher, or another) and who believes in the child's capabilities and values his accomplishments whatever they may be. This improvement may be preceded by an improvement in skills. In some children it may be concurrent with, or followed by, improved skills; in others, the skills appear unchanged within the short study period.

Judging from the content of reading readiness inventories, it appears that visual-motor integration skills are commonly considered important in the development of reading skill. In the two years of Upswing, no support for that belief was found.

It often has been put forth that "cultural deprivation" blocks development of reading skills. The Upswing evaluation tried to measure factors represented by that term through the Test of Basic Experiences, which, given the age group, would have to come from home and kindergarten. Kindergarten experience showed no relationship to initial TOBE results for the Upswing children, so it is assumed that the measure was of home-contributed basic experiences. Although the correlations between initial TOBE scores and initial scores from the other tests were significant, "treatment" appeared to override the influences of basic experiences or family background. The children made unexpected gains on the TOBE itself. Moreover, progress in other areas showed no meaningful relationship to *initial* TOBE score.

> *It looks as if tutoring could be an effective substitute for remedial reading. Moreover, it appears that the project presence may have made remedial reading work better.*

The above statements may seem extravagant, but the Upswing data showed that tutored children averaged about as much gain in reading test standard score as children who had remedial reading. Moreover, children who had both a tutor and remedial reading averaged no more gain than those who had just one or the other. In fact, there was a suggestion that having both might be detrimental.

The follow-up on children tutored in the first year of Upswing added an interesting twist. These children had no involvement with the project during their second year in school except that they were tested at the end of the year. Of the follow-up group, 86 had special services and 80% of those had either remedial reading or a reading tutor (mostly the former). This group showed a slight decline in reading skill on the follow-up test in relation to the test given at the end of their association with Upswing. Although these data are not conclusive, they strongly suggest that under ordinary circumstances, remedial reading may not be effective. It appears that being identified with a well-defined special project makes a difference in the kind of attention given children and the benefits they derive from it. Further, in view of the follow-up data, one must consider the possibility that it was not remedial reading that caused children in the second year of Upswing to gain but instead something in their relationship with tutors or teachers.

> *Children generally held their ground in the year after Upswing; they did not continue to increase their rates of development in reading.*

The follow-up data show that the children tended to maintain their age-adjusted standard scores in reading during the year after Upswing. That is, they continued to acquire reading skills at the rate they had established by the end of the Upswing year. This was true of both former tutored and former control group children. (There was a slight drop in the mean scores, but it was not interpreble as a tendency to lose ground: average point loss on the reading test of about two points for tutored and half a point for control). The nature of attrition from the follow-up group, in conjunction with the general trend for children to hold their own in the year after tutoring, indicates that the benefits of Upswing tutoring may well be stable.

Children who were retained in first grade retrogressed in reading during the follow-up year.

The decline in mean reading scores of the follow-up groups is mostly attributable to losses by children who were retained. The mean standard score of these children was in the *average* range at the end of Upswing. A year later, the group had fallen back into the low-average range. The mean loss was six points in standard score. (The initial standard deviation was small: 9.3 points; the final standard deviation was even smaller: 7.4 points. This unfortunately indicates the group was becoming more homogeneous in reading; i.e., the highest children dropped the most, to meet up with the lower ones.) Children placed in combination first and second grade classes averaged about one point lower standard scores. This amount of loss could be test error. Children who went on to second grade averaged about half a point gain, also not interpreble.

The decision to retain does not appear to have been based on reading level. However, retention had a definite negative effect on children's reading skills. We would judge that their reading losses are attributable to lower teacher expectancies, to insufficiently challenging reading material, and to the influence of the reading level of classmates. It seems reasonable to assume these children lost skills in other areas as well. If the trend should continue the children will lose status in the eyes of their peers, teachers, families, and, inevitably, in their own eyes, although they did not show lower self-esteem on the test or teacher assessment of self-confidence after one year. We do not know why these children were retained or if there was any objective foundation for the decision, but the evidence we have indicates that it was likely a bad decision.

The people involved in Upswing found it worthwhile and wanted the project to continue.

Tutors, teachers, principals, and project staff made it clear in questionnaire responses and conversation during site visits by the evaluation team that they consider Upswing both valuable to children and personally rewarding. Another Upswing was established with the help of the Denver project director in a community just outside the city during the second year of the evaluation. That project continues to operate. Tutors in the Denver project planned to continue Upswing on their own in several schools. The Denver project director is seeking foundation support in establishing a statewide tutoring program along the lines of Upswing and would eventually like to see it expanded to regional scale.

A tutoring program has been established tentatively in Oxford as a result of Upswing. The Oxford project director indicated that there were no local funds for any additional school programs. The county school system has applied for a Title VII grant for a full-time coordinator of volunteer activities. They were successful in getting money to hire a person for this school year.

The feeling in St. Louis was that to operate the project successfully, at least one full-time project director and two half-time assistants should be hired. The school system has not acted on this as far as we know. Nevertheless, two St. Louis schools are planning to continue the project on their own, and a third plans to follow suit.

Upswing had strong support in San Francisco from the Departments of Curriculum and Pupil Personnel Services, the members of the school board and school district administrators. The project director, assistant director and administrative assistant wrote a preliminary operational proposal and budget and presented it to the city. The San Francisco schools employ learning specialists to serve small clusters of schools. It was hoped that these people might take over Upswing coordination as part of their responsibilities.

UPSWING'S FUTURE

It appears at this writing that Upswing has a future; it should. This evaluation, after much deep searching has concluded that Upswing has value.

Compared to its expensive alternatives, it probably is a good investment for most communities. Perhaps one of its most beneficial future uses will be in the less populous, less wealthy areas of the country, where children in need often do not receive professional help. Upswing offers them paraprofessional help that could be just as effective at a small fraction of the cost.

Perhaps sprawling suburban school systems should reevaluate their vast expenditures for first- and second-grade reading remediation. A small portion of that budget might be well spent in establishing an Upswing type volunteer program.

As we have seen, Upswing can even work amid the complexities of a metropolitan school system. However, it requires reasonably sophisticated management to do so because of the communications and timing required. Despite this, the program is still probably far more cost-effective than anything presently available.

RECOMMENDATIONS FOR FURTHER RESEARCH

It should be stated at the outset that we believe the essential questions about tutoring on the Upswing model have been answered. It is not our intention here to suggest another Upswing evaluation on the scale of that just completed, although hopefully any replications will come up with some method of objectively checking on results with children. Some recommendations come to mind, however, that apply to the category in which the Upswing study falls—i.e., evaluation of the effectiveness of an educational "treatment."

> *A double-blind experiment would be the most profitable approach in evaluation of projects like Upswing.*

The Upswing evaluation would have provided more conclusive results if all first-grade children in the participating schools had been tested so that there could have been a tutored group and two matched comparison groups--one identified to teachers and one not identified. That would have permitted us to check on whether teacher effects were generalized or confined to the identified control children. It also would have been desirable to test children in comparison schools not involved in Upswing (but similar in child population and resources to the Upswing schools). Comparison of these results to the test results obtained in Upswing schools would have permitted us to verify more clearly the project effect believed to have occurred.

Geographic dispersal does not seem essential in a pilot study such as the Upswing evaluation.

The Upswing evaluation could not use either of the foregoing more precise methods because of the cost and burden of testing, which fell on the projects. However, we believe it would have been a profitable tradeoff to confine the project to one area and use the money saved to hire and train enough graduate student examiners to handle the required testing. If the evaluator were in close proximity to the project sites, the evaluator could assume responsibility for testing and test-scoring and therefore ensure greater consistency of examiner training and administration procedures, as well as scoring accuracy. This approach would free project staff for the work of getting a project under way.

In a pilot study such as Upswing, in which there was never any pretense of sampling and extrapolating the results, there would seem to be no necessity, whatever to go to four different regions of the country. The four chosen are insufficient to represent the nation, even in a loose way, if that was the intent. There are undoubtedly many areas around the country where one could find large metropolitan inner-city, suburban, rural, and small city schools in reasonable proximity to each other. The Washington, D.C. area would have afforded such a mix.

The measures of child progress that are used must be selected very carefully.

This would seem to be an obvious stricture, but the Upswing evaluation ran into several problems because inappropriate measures yielded useless data. Although the Metropolitan series is widely used around the nation, the reading portions of the Primer and Primary I batteries definitely were not suitable for the Upswing evaluation; the test did the children an injustice. As an aside, we suspect it is not uncommon for school systems to put themselves in a bad light in periodic large-scale self-evaluations because of the tests used.

In the first year of Upswing, no objective measure of self-esteem or self-concept was obtained because use of an inappropriate measure was prescribed.

The problems with interpreting the results of the Cegelka Academic Readiness Evaluation illustrate the importance of scoring mechanisms designed for the analytical purpose for which the instrument is being used.

> *Further research seems warranted by several of the secondary findings of the Upswing evaluation.*

It seems very important to explore the reasons underlying decisions to retain children in school and to follow children who have been retained at various grade levels to attempt to identify the effects of retention on them.

The Upswing data also suggest that the education system could gain financially by an analysis of the cost-effectiveness of remedial reading versus tutoring or other alternatives at various grade levels. It also seems worthwhile to look into reasons underlying decision to place a child in a remedial reading program.

The question of how children are evaluated in school involves both of the foregoing areas of inquiry. Stereotyping in student evaluation, and its impact, have been explored. Yet, we seem to be far from identifying the subjective criteria applied by teachers in deciding on their students' capabilities and needs. The Upswing data suggest that teachers tended to interpret one or two highly visible problems as indicative of more subtle problems whose effects would have generalized impact. The Upswing data did not provide evidence to support such an interpretation.

Finally, it is clear that much more work needs to be done on identification and objective measurement of the affective components of learning. The crude and mostly subjective measures now in use to explore such factors as self-esteem and motivation to achieve are far from adequate. In a broad sense, this gets into the question of what makes some people "good learners" (of what society considers it desirable to learn) and other people poor learners; also, what makes some people better tutors or teachers than others. There is good evidence that the answers to these questions have more to do with affective characteristics of people and their relationships than with instructional techniques.

EDITORIAL CLOSING COMMENT

Mark Harris said in reviewing Rosenthal's research on the effects of expectancies, that "teaching is a form of loving ... teachers [and tutors] see what they expect to see, and the pupil sees what the teacher sees." (*Psychology Today*, September 1973.) And the pupil does what he thinks he can do and what is made worthwhile by the response of others. The effect of expectancy was evident in several aspects of the Upswing data. Moreover, it works on tutors and teachers as well as children. By reverberation, what the tutors and teachers feel about their ability to teach affects the children too.

We are led to two conclusions. First, the training given anyone who is to work with children should emphasize how to look at children carefully; how to interpret their academic and nonacademic behavior; how to expect good of them individually without applying too much pressure; the importance of being specific and sincere in recognizing children's successes--in short, training should emphasize the how-to of good learning relationships. Training also should help teachers to, (pardon the expression) a gut belief in the importance of relationships. Too many of us think we have faith, but when a child does not seem able to grasp the concept of long and short vowels we get desperate, defeated, or even hostile. As Bruno Bettelheim says, "love is not enough"; we believe that is true, but we believe love is essential.

The second point we wish to make here has to do with the school environment. The long-established Hawthorne effect has shown that environmental changes like those brought about in Upswing can be perceived as a form of attention or recognition by teacher, child, and volunteer. Under such attention there is usually motivation to "look good." This results in positive activity and improved attitudes. For example, teachers apparently became more perceptive about the children with learning difficulties; they tended to give these children more positive attention. Shades of Rosenthal, positive attention seems to improve people's morale and make them work better; it is a way of saying you are important--special effort for you is worthwhile. In other words, environmental change is a stimulant. It appears that Project Upswing was in that category of phenomena. Teachers did not always like Upswing, but it brought them into contact with other people, other ideas. They interacted on a personal basis with university staff. Involvement meant they were in a sense special. Tutors generally looked up to them; tutors and project staff alike valued their opinions and recognized the difficulty of the teacher's job. Involvement in Upswing may have stimulated competitive spirit in some teachers. We cannot pinpoint all of the possibilities of the situation. Yet, it seems clear that Upswing created a different kind of environment that was beneficial to teachers and to children as well. It seems like a good idea for school administrators to keep in mind the value in making school a special place, not just for children but for the adults there too.

APPENDIX A

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APPENDIX B

DATA COLLECTION FORMS USED IN PROJECT UPSWING

PROJECT UPSWING

OMB No. 51-S73018
Expiration Date: 6/30/73

VOLUNTEER FINAL IMPRESSIONS

Name of Tutor: ______________________________

Child's Name: ______________________________

Teacher's Name: ______________________________

School: ____________________ City: ______________

INFORMATION FOR PROJECT UPSWING USE ONLY

The information requested on this form is to help evaluate Project Upswing and plan ways of using volunteers effectively in education programs. *Please do not omit any answers.* Individual names will not be used when the results are printed. Space for comments is provided to give you the opportunity to express your individual ideas and feelings. Comments are optional.

* *

1. What is your general opinion about the Upswing group training meetings you attended this year? *(Check one)*

   a. I did not attend enough training meetings to have an opinion .... ☐
   b. I did not need training .... ☐
   c. Training is not necessary for tutors .... ☐
   d. Training generally was presented poorly .... ☐
   e. It was useful but not essential .... ☐
   f. It was very important to me in my work as a tutor .... ☐

   Comments: ____

   ____

   ____

If you checked a, b, or c in answering question 1, skip to question 3.

2. If you found the training sessions generally were useful, please indicate your major reasons. *(Check the three most important)*

   a. They gave me confidence .... ☐
   b. They gave me knowledge of teaching techniques .... ☐
   c. They helped me know what to expect from my pupil .... ☐
   d. They helped me handle behavior problems .... ☐
   e. They acquainted me with a variety of materials and their uses .... ☐
   f. They helped me diagnose my pupil's specific learning needs .... ☐
   g. They helped me tutor appropriately to meet my pupil's specific learning needs .... ☐

h. They helped me to evaluate my pupil's progress ☐

i. They helped me to have a better relationship with my pupil ☐

j. They helped me have a better relationship with my pupil's teacher ☐

k. Other (please specify) ________________________________

3. What is your general opinion about individual help you received from Project Upswing staff? *(Check one)*

a. Individual help was not available to me ☐

b. I did not need individual help ☐

c. The Upswing staff generally did not give the kind of individual help I needed ☐

d. It was useful but not essential ☐

e. It was very important to me in my work as a tutor ☐

Comments: ________________________________

____

If you checked a or b in answering question 3, skip to question 5.

4. If you found individual help generally was useful, please indicate your major reasons. *(Check the three most important)*

a. It gave me confidence ☐

b. It gave me knowledge of teaching techniques ☐

c. It helped me know what to expect from my pupil ☐

d. It helped me handle behavior problems ☐

e. It acquainted me with a variety of materials and their uses ☐

f. It helped me diagnose my pupil's specific learning needs ☐

g. It helped me tutor appropriately to meet my pupil's specific learning needs ☐

h. It helped me to evaluate my pupil's progress ☐

i. It helped me to have a better relationship with my pupil ☐

j. It helped me have a better relationship with my pupil's teacher ☐

k. Other (please specify) ________________________________

____

5. Which approach (group training or individual help) was most useful to you in tutoring? *(Check one)*

a. Group ☐

b. Individual ☐

c. I found the two equally useful ☐

d. Neither was useful ☐

6. Please rate the volunteer training materials used by Project Upswing (for example, sample tutoring materials, handouts describing games and teaching techniques for use in tutoring, handouts about specific learning problems). *(Check one)*

   a. In general, the materials were inappropriate (useless for my needs, confusing, etc.) ☐

   b. Some of the materials were helpful, but on the whole they were of little value in my opinion ☐

   c. In general the materials were good ☐

   d. In general the materials were outstanding ☐

   e. There were very few or no training materials as far as I know ☐

7. Please list the tutoring materials that you found most valuable in working with your child. List no more than three.

   ____

   ____

   ____

8. To what extent did you work on activities to build your pupil's visual-motor integration skills (for example, cutting out pictures, tracing, handwriting, coloring, puzzles, manipulative games, etc.)? *(Check one)*

   a. Rarely or not at all ☐

   b. Sometimes ☐

   c. Frequently ☐

   Comments: ____

   ____

9. Did you receive enough support from Project Upswing staff during the year?

   a. Yes ☐

   b. No ☐

10. Could you have used other types of group training sessions?

   a. Yes ☐

   b. No ☐

   If "Yes," describe: ____

   ____

11. Could you have used more individual counseling?

   a. Yes ☐

   b. No ☐

   If "Yes," describe: ____

12. Could you have used more tutoring materials?

a. Yes .... [ ]

b. No .... [ ]

If "Yes," describe: ____

____

13. What other types of aid could you have used?

____

____

____

14. Did you find the following aspects of Upswing meetings generally favorable (F) or generally unfavorable (U)? *(Circle F or U for each item a - d)*

		Favorable	Unfavorable
a.	Schedule (day and time meetings were held)	F	U
b.	Location(s) of meetings	F	U
c.	Physical environment of meetings (for example temperature of room, amount of space, lighting, comfort of chairs, etc.)	F	U
d.	Social atmosphere of meetings (for example friendliness, opportunity to express your ideas, etc.)	F	U

15. Did any of the aspects of Upswing meetings listed in question 14 cause you to miss one or more meetings?

a. Yes .... [ ]

b. No .... [ ]

If "Yes," please specify which caused you to miss meetings:

____

____

16. Please show your satisfaction with communications in Project Upswing by using the scale below.

Strongly Dissatisfied	Dissatisfied	Satisfied	Strongly Satisfied
SD	D	S	SS

		Circle Satisfaction Rating			
a.	Communications between you and Upswing staff	SD	D	S	SS
b.	Communications between you and your pupil	SD	D	S	SS
c.	Communications between you and your pupil's teacher	SD	D	S	SS
d.	Communications between you and other volunteer tutors	SD	D	S	SS
e.	Other (please specify) ____________________ ____________________	SD	D	S	SS

Comments: ____

____

17. Which types of communication listed in question 16 do you think are most important to being an effective tutor? *(Check two)*

a. __________ b. __________ c. __________ d. __________ e. __________

Comments: ____

____

____

18. How do you feel about teacher guidance? *(Check one)*

a. I would have preferred more guidance from my pupil's teacher .... [ ]

b. The teacher has given me adequate guidance .... [ ]

c. I would have preferred less guidance from the teacher .... [ ]

d. I do not need any guidance from the teacher .... [ ]

Comments: ____

____

____

19. How do you feel about the overall effect of tutoring on your pupil? Please consider all types of possible effects – development of academic skills, self-confidence, ability of child to control his behavior, motor coordination, etc. *(Check one)*

a. I believe tutoring may have been bad for this child ☐
b. I do not know if tutoring has contributed to the child's development ☐
c. I believe tutoring has made a small contribution to the child's development ☐
d. I believe tutoring has made an important contribution to the child's development ☐

Comments: ____________________

____

20. Please check the item that best describes how you feel about your experience with Project Upswing. *(Check one)*

a. Strongly satisfied ☐
b. Satisfied ☐
c. Neutral ("take it or leave it") ☐
d. Dissatisfied ☐
e. Strongly dissatisfied ☐

Comments: ____________________

____

____

Thank you for your cooperation in filling out this questionnaire. Please also complete the attached "Student Profile," which has questions about the child you tutored. If you tutored more than one child in Upswing, complete a profile for each child. The space below is provided for any additional comments you may wish to make about Project Upswing and your role in it.

STUDENT PROFILE

Child's Name: ____

The following items pertain to the child you tutor. For each underlined topic, check ONE statement that generally applies to the child.

1. Ease of conversation:
    a. Conversation with this child is not possible at this time .... [ ]
    b. Conversation with this child requires considerable effort on my part .... [ ]
    c. Child seems timid, but is able to engage in conversation .... [ ]
    d. Child is able to hold conversation in a relaxed, spontaneous manner .... [ ]

2. Initiation of conversation:
    a. So far, child rarely or never initiates conversation with me .... [ ]
    b. Child occasionally initiates conversation .... [ ]
    c. Child frequently initiates conversation .... [ ]
    d. Child does not converse, but rather wants to talk constantly, cannot handle the "give and take" of conversation .... [ ]

3. Speech characteristics:
    a. Child speaks at a reasonable level (volume) and can be understood .... [ ]
    b. Child speaks at a very low level (volume), but can be heard and understood .... [ ]
    c. Child speaks very softly, and/or "mumbles," is difficult to understand .... [ ]
    d. Child speaks very loudly and aggressively .... [ ]

4. Eye contact:
    a. Child generally looks at the floor, ceiling, or elsewhere when we talk .... [ ]
    b. Child generally "looks me in the eye" when we talk .... [ ]
    c. Child stares at me in a blank or frightened way .... [ ]

5. Approach to new tasks:
    a. Child generally seems interested and confident in undertaking a task he/she has never done before .... [ ]
    b. Child generally seems hesitant, but will try new tasks .... [ ]
    c. Child generally is unwilling to try a task he/she has never done before .... [ ]

6. General confidence:

a. This child appears to have little or no self-confidence .... [ ]

b. This child appears to be reasonably self-confident .... [ ]

c. This child appears to be highly self-confident .... [ ]

* *

The space below is provided for any observations about the child that you feel might be of interest.

OMB No. 51-S73018
Expiration Date: 6/30/73

PROJECT UPSWING

TEACHER FINAL IMPRESSIONS

Name: ______________________________

School: ____________________ City: ____________________

INFORMATION FOR PROJECT UPSWING USE ONLY

The information requested on this form is to help evaluate Project Upswing and plan effective ways of using volunteers effectively in education programs. *Please do not omit any answers.* Individual names will not be used when the results are tabulated. Space for comments is provided to give you the opportunity to express your individual ideas and feelings. Comments are optional.

* *

1. Project Upswing asked you to fill out a readiness inventory – the CARE – at the beginning of the school year for each child you referred as a tutoring candidate. You have been, or will be asked to fill out the CARE for each one again at the end of the school year. Please check under "Yes" or "No" to answer the following questions about the inventory.

		Yes	No
a.	The CARE is easy to fill out:	☐	☐
b.	The CARE is useful to teachers in identifying children with learning problems or potential learning problems:	☐	☐
c.	The CARE covers the appropriate behaviors for first-grade children:	☐	☐
d.	The information from the CARE is useful to help volunteer tutors know what to expect from their pupils and what they need to work on:	☐	☐
e.	The CARE is useful in evaluating children's progress:	☐	☐

Comments: ______________________________

____

____

____

2. Did you have enough information about the teaching approaches and materials used by the Upswing volunteer(s) who tutored your pupil(s)? *(Check one)*

a. Yes .... ☐

b. No .... ☐

Comments: ______________________________

____

____

3. In general, were the Upswing meetings for teachers useful in helping you and the volunteer tutor(s) work well together? *(Check one)*

    a. They were a hindrance ☐
    b. They had no effect ☐
    c. They were somewhat useful ☐
    d. They were very useful ☐
    e. Did not attend ☐

    Comments: ____

    ____

4. Do you think teacher meetings are important for a smoothly running volunteer tutoring program in the schools? *(Check one)*

    a. No ☐
    b. They are helpful, but not essential ☐
    c. They are very important ☐

    Comments: ____

    ____

5. Were you satisfied with the frequency of Upswing teacher meetings? *(Check one)*

    a. Yes ☐
    b. No, the meetings should have been held more often ☐
    c. No, there were more meetings than were needed ☐
    d. There were no meetings as far as I know ☐

    Comments: ____

    ____

6. Were you satisfied with the amount of contact between you and Project Upswing staff other than in meetings? *(Check one)*

    a. Yes ☐
    b. No, I thought more informal contact was needed ☐
    c. No, I thought Project staff contacted me more than necessary ☐

    Comments: ____

    ____

7. Did you find the following aspects of Upswing meetings generally favorable (F) or generally unfavorable (U)? *(Circle F or U for each item a – d)*

		Favorable	Unfavorable
a.	Schedule (day and time) of meetings	F	U
b.	Location(s) of meetings	F	U
c.	Physical environment of meetings (for example, temperature of room, amount of space, lighting, comfort of chairs, etc.)	F	U
d.	Social atmosphere of meetings (for example, friendliness, opportunity to express your ideas, etc.)	F	U

e. There were no meetings as far as I know .... ☐

f. I did not go to the meetings .... ☐

g. I have no opinion .... ☐

8. Did any of the aspects of Upswing meetings listed in question 7 cause you to miss one or more meetings? *(Check one)*

a. Yes .... ☐

b. No .... ☐

If yes, please specify which caused you to miss meetings: ______________________________

____

9. Do you think teachers generally would be willing to attend meetings as part of their involvement in a project like Upswing if they could not be paid? *(Check one)*

a. Yes .... ☐

b. No .... ☐

Comments: ____

____

10. What is your opinion of the individual support given to Upswing volunteers by the project staff? *(Check one)*

a. It is a key reason for Upswing's effectiveness .... ☐

b. It is useful but not essential .... ☐

c. It is not needed .... ☐

d. It is detrimental .... ☐

e. I believe individual support by someone other than school personnel is needed, but the support given by Project Upswing to its volunteers this year was not effective. .... ☐

f. I don't know .... ☐

Comments: ____

____

11. Please rank the following kinds of volunteer-teacher communication. *(Give the most desirable a 1 and the least desirable a 6. Use each ranking number, 1 through 6, only once.)*

a. ____ Informal talks initiated by the teacher

b. ____ Informal talks initiated by the volunteer

c. ____ Regular meeting of teacher with all of her volunteers together

d. ____ Regular meeting of teacher and single volunteer

e. ____ Regular school-wide meetings of teacher and volunteers

f. ____ Regular city-wide meetings of Upswing teachers and volunteers

Comments: ____

____

12. In general, do you believe that volunteer tutors are effective in working with first-grade children who have learning problems? *(Check one)*

a. No .... ☐

b. Yes .... ☐

Comments: ____

____

13. Was your participation in Project Upswing beneficial to you as a professional educator? *(Check one)*

a. No .... ☐

b. Yes .... ☐

Comments: ____

____

14. If your answer to Question 13 is "Yes," please indicate how Upswing was professionally helpful to you. *(Check all that apply)*

a. Acquainted me with a greater variety of instructional materials .... ☐

b. Acquainted me with additional teaching techniques .... ☐

c. Gave me additional understanding about how to diagnose specific learning needs .... ☐

d. Gave me greater insight into how to individualize instruction for my pupils .... ☐

e. Increased my ability to use helping personnel effectively .... ☐

f. Motivated me to further my education .... ☐

g. Other (please specify) ____

____

Comments: ____

____

15. Please check the item that best describes how you feel about your experience with Project Upswing. *(Check one)*

a. Strongly satisfied .... ☐

b. Satisfied .... ☐

c. Neutral ("take it or leave it") .... ☐

d. Dissatisfied .... ☐

e. Strongly dissatisfied .... ☐

Comments: ______________________________

____

Thank you for your cooperation in filling out this questionnaire. Please be sure to complete the attached "Student Profile" for each of the pupils in your class who received Upswing tutoring at least up to March 1, 1973. Also complete a profile for each of your pupils who was in the Upswing control group.

INDIVIDUAL STUDENT PROFILE

Child's Name: ______________________ Child's Sex: __________

Teacher's Name: ______________________________________

School: ________________________ City: ______________

* * *

1. Did this child attend kindergarten? *(Check one)*

   a. Yes ☐

   b. No ☐

   c. I don't know ☐

2. How does this child communicate with his peers? *(Check one)*

   a. He/she does not communicate with peers at all ☐

   b. Communication is primarily nonverbal (i.e., play, hitting, signs, etc.) ☐

   c. Communication is about equal amounts of verbal and nonverbal ☐

   d. Communication is primarily verbal ☐

   e. I don't know ☐

3. How often does he communicate with peers? *(Check one)*

   a. Frequently, more than most other children; initiates majority of the communication ☐

   b. Seems to be average in terms of communication with peers; initiates about half of communications ☐

   c. Below average; shows tendency to avoid communication ☐

   d. I don't know ☐

4. Please show how readily this child forms relationships. Rank from 1 - 4. For example, if the child forms relationships most easily with adults, put "1" by "adults". If he forms relationships next most easily with children his age, put "2" by that answer choice. If he relates third most easily with older children, put "3" by that answer choice and "4" by the remaining choice – "Younger children." *Assign each number only once.* If you cannot rank all choices, put a check by "Don't know."

   a. Adults ☐

   b. Older children ☐

   c. Children his own age ☐

   d. Younger children ☐

   e. I don't know ☐

5. How does this child approach play time? *(Check one)*
   a. Prefers to play in large groups of children .... ☐
   b. Prefers to play in small groups .... ☐
   c. Prefers to play by himself .... ☐
   d. I don't know .... ☐

6. How readily does this child participate in class discussions and activities? *(Check one)*
   a. Child frequently volunteers information, volunteers for tasks, volunteers to answer questions, etc. .... ☐
   b. Child sometimes volunteers, responds readily when called upon to participate .... ☐
   c. Child never volunteers, seems shy when called upon to participate .... ☐
   d. Child is unable to participate in class discussions or activities (for example, seems confused, overwhelmed by embarrassment, frightened when called upon to participate, is too easily distracted, cannot carry out a task, etc.) .... ☐

7. How does this child relate to you? *(Check one)*
   a. Child seeks attention from me almost constantly .... ☐
   b. Child is friendly and responsive but able to function independently .... ☐
   c. Child appears timid when relating to me .... ☐
   d. Child appears hostile when relating to me .... ☐

For each of the following underlined topics, please check the statement that generally *applies to this child.*

8. Approach to new tasks:
   a. Child generally seems interested and confident in undertaking a task he/she has never done before .... ☐
   b. Child generally appears hesitant or unwilling to try a task he/she has never done before .... ☐

9. Eye contact during conversation:
   a. Child usually looks me in the eye when we talk .... ☐
   b. Child usually looks at the floor, ceiling, or elsewhere when we talk .... ☐

10. Disputes with other children:
   a. Child generally avoids or withdraws from disputes with other children .... ☐
   b. Child generally holds his/her own in disputes with other children .... ☐
   c. Child frequently initiates conflict, seems to seek out conflict .... ☐

11. General confidence:

a. Child appears to have little or no self-confidence .... [ ]

b. Child appears to be reasonably self-confident .... [ ]

c. Child appears to be highly self-confident .... [ ]

* *

The space below is provided for any observations about this child that you feel might be of interest.

PROJECT UPSWING

OMB No. 51-S73018
Expiration Date: 6/30/73

PRINCIPAL'S OPINIONS ABOUT UPSWING

Principal's Name: ______________________________

School: ____________________ City: ____________________

INFORMATION FOR PROJECT UPSWING USE ONLY

The information requested on this form is to help evaluate Project Upswing and plan ways of using volunteers effectively in education programs. *Please do not omit any answers.* Individual names will not be used when the results are printed. Space for comments is provided to give you the opportunity to express your individual ideas and feelings. Comments are optional.

* *

1. How long have you been associated with Project Upswing? *(Check one)*

   a. This school year only .... ☐
   b. This and the last school year .... ☐

2. Did you have a clear understanding of the goals of Project Upswing?

   a. Yes, I believe so .... ☐
   b. No .... ☐

   Comments ______________________________

3.(a) Please indicate your overall opinion about having volunteer tutors in general working in your school. *(Check one)*

   a. I welcome them .... ☐
   b. Because of space problems I would prefer not to have them .... ☐
   c. They cause a hardship to my staff that overbalances the good they do .... ☐
   d They disrupt classrooms .... ☐
   e. I do not believe they are effective in helping children overcome learning difficulties .... ☐

   Comments ______________________________

3.(b) Please indicate your overall opinion about having Upswing volunteer tutors working in your school. *(Check one)*

   a. I welcome them .... ☐
   b. Because of space problems I would prefer not to have them .... ☐
   c. They cause a hardship to my staff that overbalances the good they do .... ☐
   d. They disrupt classrooms .... ☐
   e. I do not believe they are effective in helping children overcome learning difficulties .... ☐

   Comments ______________________________

4.(a) What is your opinion about the need, in general, for training volunteer tutors? *(Check one)*

a. A simple orientation and guidance from the teacher are sufficient ☐
b. Training is useful but not essential ☐
c. Training is essential for most volunteers ☐

Comments ______________________________

____

4.(b) What is your opinion about the need for training Upswing volunteer tutors? *(Check one)*

a. A simple orientation and guidance from the teacher are sufficient ☐
b. Training is useful but not essential ☐
c. Training is essential for most volunteers ☐

Comments ______________________________

____

5. What is your opinion about the individual support given to Project Upswing tutors by the project staff? *(Check one)*

a. It is a key reason for Upswing's effectiveness ☐
b. It is useful but not essential ☐
c. It is not useful ☐
d. It is detrimental ☐
e. I believe individual support by someone other than school personnel is needed, but the support given by Project Upswing to its volunteers this year was not effective ☐
f. I have no definite opinion ☐

Comments ______________________________

____

6. How did most of the teachers on your staff seem to feel about Project Upswing? *(Check one)*

a. Very negative ☐
b. Somewhat negative ☐
c. They seemed to have a "take it or leave it" attitude ☐
d. Positive ☐
e. Very positive ☐

Comments ______________________________

____

7. Please indicate your opinion about one-to-one tutoring (as given in Project Upswing) in the first grade as a way of helping children overcome learning difficulties. *(Check one)*

a. I consider it an approach that has great potential ☐
b. I consider it an approach that has moderate potential ☐
c. I am undecided about the value of this approach ☐
d. I consider it a low priority approach ☐
e. I consider it an ineffective approach ☐

Comments ______________________________

____

8. Do you believe a tutoring program like Upswing could be operated successfully by an individual school? (That is, the school would recruit its own volunteer tutors and provide them with the necessary training, supervision, and materials.) *(Check one)*

a. No ☐
b. Yes, if funds were available ☐
c. Yes, without any budget adjustment ☐

Comments ______________________________

____

9. To your knowledge, were other elementary school principals in the school system interested in having Upswing volunteers work in their schools? *(Check one)*

a. Yes ☐
b. No ☐
c. Don't know ☐

Comments ______________________________

____

10. Do you think the public school system would be willing to institute a tutoring program like Project Upswing as part of a volunteer program in the schools? (That is, the school system would recruit its own volunteer tutors and provide them with the necessary training, supervision, and materials.) *(Check one)*

a. Yes, if funds were available ☐
b. Yes, without a budget adjustment ☐
c. No ☐
d. Don't know ☐

Comments ______________________________

____

11. If you were associated with Project Upswing both in its first and second years, what differences, if any, have you noticed about the project? *(Check one)*

a. I have only been associated with Project Upswing this school year . . . . ☐

b. I have not noticed any differences . . . . ☐

c. I have noticed the following differences: ______________________________

____

____

Thank you for your cooperation in filling out this questionnaire. The space below is provided for any additional comments you may wish to make about Project Upswing and your role in it.

PROJECT UPSWING ATTRITION REPORT

(Check One)

☐ **Teacher** ☐ **Child** ☐ **Volunteer**

Name ____________________

School ____________________

City ____________________

Date Upswing Participation Ended *(approximate)*

____

Reason for Leaving Program *(if known)*

____

____

____

Report Filled Out by:

____

PROJECT UPSWING COST ANALYSIS FORM

CITY NAME ________________________

PURPOSE

The purpose of this form is to gather information concerning how the Upswing budget dollars have been or are expected to be expended by the end of the school year. This cost information will then be used in conjunction with measurement of the effectiveness of the results of the Upswing project. It is important that the dollar amounts provided are accurate; however, reasonable estimates will suffice when actual data are unavailable.

A.1. PROJECT UPSWING STAFF EXPENSES FOR THE 1971-72 YEAR

Staff Member	Expenses (dollars)					Time Spent on Upswing	
	Total Salary Received For Year From Upswing	Travel	Other	Overhead Paid to University	Total	Number of Weeks For Academic Year	Hours per Week Spent on Upswing
Project director							
Assistant project director							
Secretarial							
Other (non-clerical)							
Lecturers							
Graduate assistants							
School system personnel involved in Upswing							
Total							

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A.2. ESTIMATE OF PROJECT UPSWING STAFF EXPENSES FOR THE 1972-73 YEAR

Staff Member	Expenses (dollars)					Time Spent on Upswing	
	Total Salary Received For Year From Upswing	Travel	Other	Overhead Paid to University	Total	Number of Weeks For Academic Year	Hours per Week Spent on Upswing
Project director							
Assistant project director							
Secretarial							
Other (non-clerical)							
Lecturers							
Graduate assistants							
School system personnel involved in Upswing							
Total							

B. PERCENT OF TIME ALLOCATED TO VARIOUS PROJECT TASKS DURING THE 1971-72 YEAR AND AN ESTIMATE FOR THE 1972-73 YEAR

(Total Time = 100%)

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Staff Member	Recruiting		Orientation of Untrained Volunteers		Training		Management and Operations of Project		Supervision and Assistance to Volunteers				Other		Total (100%)	
									Trained		Untrained		Trained	Untrained		
	71-72	72-73	71-72	72-73	71-72	72-73	71-72	72-73	71-72	72-73	71-72	72-73	71-72 / 72-73	72-73	71-72	72-73
Project director																
Assistant project director																
Graduate assistants* (No. = ___)																
School system personnel																

* Please estimate average time allocation for one graduate assistant, stating the total number of graduate assistants in space provided.

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		Estimates of Year Costs	
C.	Training Program Costs (other than staff salaries)	1971-72	1972-73
	Materials used in training (books, film, etc.)	$ ______	$ ______
	Room used in training	$ ______	$ ______
	Other expenses incurred for training (specify)		
	______________________	$ ______	$ ______
	______________________	$ ______	$ ______
	______________________	$ ______	$ ______
	______________________	$ ______	$ ______
	Total	$ ______	$ ______

		Estimate of Year Costs	
D.	Miscellaneous Expenses	1971-72	1972-73
	Expenditures for volunteer recruitment not otherwise listed (e.g., spot announcements, flyers, printing, etc.)	$ ______	$ ______
	Cost of instructional materials used by tutors (DISTAR, Peabody, Kits, etc.)	$ ______	$ ______
	Other costs incurred that are not included in the questions above (please itemize)		
	Item		
	____________________	$ ______	$ ______
	____________________	$ ______	$ ______
	____________________	$ ______	$ ______
	____________________	$ ______	$ ______
	Total	$ ______	$ ______

E. Adequacy of Funds (answer for only the 1971-72 year)

1. Do you feel that sufficient funds were available for project staffing?

   Yes No

   Please explain.

   ____

   ____

   ____

   ____

2. Do you feel that sufficient funds were available for materials?

   Yes No

   Explain.

   ____

   ____

   ____

   ____

3. Do you feel sufficient funds were available to conduct training?

   Yes No

   Explain.

   ____

   ____

   ____

4. Do you feel there were items for which actual costs incurred were significantly higher or lower than had been anticipated in the original budget?

Yes No

Explain.

____

____

____

____

5. Did the Upswing project overrun its costs?

Yes No

Explain.

____

6. a. What was the amount of the additional funds received?

$ ________

b. What were these funds used for? ____________________

7. Suggestions and recommendations for future budgeting. (Please make any suggestions or comments relating to budgeting which you feel might be beneficial to other Upswing Directors.)

____

____

____

____

____

F. Total Student Load

What is the total number of students that could be supported in the 71-72 and 72-73 models of Upswing within the budget allowances for those years?

Year	Present Number	Maximum
71-72		
72-73		